Tetrahedron: *Asymmetry*

The International Journal for Rapid Publication on all Aspects of Asymmetry in Organic, Inorganic, Organometallic, Physical and Bio-organic Chemistry

Editor-in-Chief: **STEPHEN G. DAVIES**, *University of Oxford, Oxford, UK*
Chairman of the Executive Board of Editors for Tetrahedron Publications: Sir Derek Barton, *Texas A&M University, USA*

SUBJECT INDEX AND AUTHOR INDEX
Volume 1 (1990)

Pergamon Press Oxford New York Seoul Tokyo

Tetrahedron: *Asymmetry*

The International Journal for Rapid Publication on all Aspects of Asymmetry in Organic, Inorganic, Organometallic, Physical and Bio-organic Chemistry

Editor-in-Chief: **Dr S. G. DAVIES,** Dyson Perrins Laboratory
South Parks Road, Oxford OX1 3QY, UK
Fax: (44) 865 275633

EXECUTIVE BOARD OF EDITORS FOR TETRAHEDRON PUBLICATIONS

Chairman: **Professor Sir Derek Barton, FRS,** Department of Chemistry,
Texas A and M University, College Station, Texas 77843-3255, USA

Professor J. E. Baldwin, FRS, Dyson Perrins Laboratory, Oxford, UK
Professor D. L. Boger, Department of Chemistry, The Scripps Research Institute, La Jolla, CA 92037, USA
Professor L. Ghosez, Laboratoire de Chimie Organique de Synthèse, Université Catholique de Louvain, B-1348 Louvain-la-Neuve, Belgium
Professor S. Ito, Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Yamashiro-cho, Tokushima 770, Japan
Professor A. R. Katritzky, FRS, Department of Chemistry, University of Florida, Gainesville, FL 32611, USA
Professor N. K. Kochetkov, N.D. Zelinsky Institute of Organic Chemistry, Academy of Sciences USSR, Leninsky Prospekt 47, Moscow B-334, USSR
Professor A. McKillop, University of East Anglia, School of Chemical Sciences, University Plain, Norwich NR4 7TJ, UK
Professor A. Nickon, Department of Chemistry, The Johns Hopkins University, Baltimore, MD 21218, USA
Professor W. D. Ollis, FRS, Department of Chemistry, University of Sheffield, Sheffield, S3 7HF, UK
Professor G. Ourisson, Centre National de la Recherche Scientifique, Centre de Neurochimie, 5 rue Blaise Pascal, 67084 Strasbourg Cedex, France
Professor T. Shioiri, Faculty of Pharmaceutical Sciences, Nagoya City University, Tanabe-dori, Mizuho-ku, Nagoya 467, Japan
Professor W. Steglich, Institut für Organische Chemie und Biochemie der Universität Bonn, D-5300 Bonn 1, Gerhard-Dogmagk-Strasse 1, Germany
Professor H. H. Wasserman, Department of Chemistry, Yale University, PO Box 6666, New Haven, CT 06511, USA
Professor W. T. Wipke, Thimann Laboratories, University of California, Santa Cruz, CA 95064, USA

BOARD OF CONSULTING EDITORS

F. Arcamone, Florence
D. Arigoni, Zurich
A. R. Battersby, Cambridge
A. L. J. Beckwith, Canberra
A. J. Birch, Canberra
R. Breslow, New York, NY
H. C. Brown, Lafayette, IN
J. M. Brown, Oxford
H. Brunner, Regensburg
A. Collet, Lyon
E. J. Corey, Cambridge, MA
J. W. Cornforth, Brighton
P. Deslongchamps, Quebec
M. J. S. Dewar, Gainesville, FL
C. Djerassi, Stanford, CA
W. von E. Doering, Cambridge, MA
J. E. Dubois, Paris
J. Elguero, Madrid
D. Enders, Aachen
A. Eschenmoser, Zurich
G. Fodor, Morgantown, WV
C. Gennari, Milan
A. González González, Tenerife
L. M. Harwood, Oxford
T. Hayashi, Sapporo
G. Helmchen, Heidelberg
Y. Hirata, Nagoya
R. Huisgen, Munich
W. S. Johnson, Stanford, CA
J. B. Jones, Ontario
H. B. Kagan, Orsay
A. Kjaer, Lyngby
V. A. Koptyug, Novosibirsk
R. U. Lemieux, Alberta
X. T. Liang, Beijing
P. de Mayo, Ontario
J. Michalski, Lodz
M. L. Mihailovic, Belgrade
K. Mori, Tokyo
T. Mukaiyama, Tokyo
K. Nakanishi, New York, NY
T. Norin, Stockholm
R. Noyori, Nagoya
S. Nozoe, Sendai, Japan
W. Oppolzer, Geneva
H. Paulsen, Hamburg
P. Potier, Gif-sur-Yvette
S. K. Pradhan, Bombay
A. J. Pratt, Oxford
V. Prelog, Zurich
G. Quinkert, Frankfurt
R. A. Raphael, Cambridge
C. W. Rees, London
J. D. Roberts, Pasadena, CA
A. I. Scott, College Station, TX
K. B. Sharpless, Cambridge, MA
G. Snatzke, Bochum
G. Solladie, Strasbourg
H. A. Staab, Heidelberg
G. Stork, New York, NY
Sukh Dev, New Delhi
W. Tochtermann, Kiel
A. Todd, Cambridge
H. G. Viehe, Louvain-la-Neuve
E. Vogel, Cologne
P. von Ragué Schleyer, Erlangen
Y. Wang, Shanghai
G. H. Whitham, Oxford
K. B. Wiberg, New Haven, CT
S. B. Wild, Canberra
E. Winterfeldt, Hannover
H. Yamamoto, Nagoya
N. S. Zefirov, Moscow

Publishing, Subscription and Advertising Offices: Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK (Phone: 0865 794141; Fax: 0865 60285) and Pergamon Press Inc., 395 Saw Mill River Road, Elmsford, New York, 10523, USA (Phone: 914 592 7700; Fax: 1914 592 3625).

Twelve issues per year

Tetrahedron: Asymmetry is included in subscriptions to *Tetrahedron* but can also be ordered separately.

Annual Subscription Rates

For libraries, university departments, government laboratories, industrial and other multiple-reader institutions (including postage and insurance):
1991: Volume 2 DM 585.00
1991/92: Volumes 2 & 3 DM 1111.50
Subscription rates for Japan include despatch by air and prices are available on application.

Specially Reduced Rates to Individuals

In the interests of maximising the dissemination of the research results published in this important international journal we have established a two-tier price structure. Any individual whose institution takes out a library subscription may purchase a second or additional subscription for personal use, rates available from your nearest Pergamon Office.

Microform Subscriptions and Back Issues

Back issues of all previously published volumes are available direct from Pergamon Press offices.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials. ANSI Z39.48-1984.

Copyright © 1991 Pergamon Press plc

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organisations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Photocopying Information for Users in the USA

The Item-Fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying, beyond that permitted by Section 107 or 108 of the United States Copyright Law, is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970.

Permission for Other Use

The copyright owner's permission does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-Fee Code for this publication is: 0957-4166/91 $3.00 + .00

Subject Index 1990

Acetals
chiral, in asymmetric synthesis, Report, 477

Acylation
enzymatic–, using acid anhydrides, removal of acid crucial, 541

Addition reactions
1,4–, to α–β–unsat compds bearing γ–stereo center, molecular mechanics model for steric interactions in transition state, 21
asymmetric–, ethyl azidoformate to optically active enamines, facial selectivity reversed as compared with ethoxycarbonyl–nitrene, 931
conjugate–, to chiral butenolide, asymmetric synthesis of homochiral dibenzyl–butyrolactone lignans, 857
crotylstannane to norephedrine–derived 2–methoxy oxazol idines, synclinal transition state geometry, 429
diastereoselective–, methylcopper–and dimethylcuprate–boron trifluoride reagents to(S)–(N–alkylidene–1–phenylethylamines, 291
electrophilic–, (Z,Z)–1–hydroxy–2,3–epoxy–6–cyclo–nonene, stereoselectivity, 319
intramolecular Michael–, chiral imines to enoates, asymmetric carbocyclisation, 162
Michael–, lithiodiphenyl phosphine to menthyl oxy–2[5H]–furanone, enantio selective synthesis of S,S–CHIRAPHOS, 719

Alcohols
chiral–, abs config from CD of *in situ* complex with [Rh2(O2CCF3)4], 221
enzymatically catalysed ester–ifications in organic media, 783
new reagent for detn of enantiomeric purity by ^{31}P NMR 437
rac 1–phenyl–1–alkanols, hydrolysis of acetates by *Pseudomonas* lipase, 87
rac–, kinetic resolution with chiral carboxylic acids and dicyclo hexylcarbodiimide, 851
sec chiral–, enantio specific conversion into sulfenyl chlorides and subsequently N–(alkylithio) phthalimides, 141

Aldehydes
aliphatic–, cross coupling with aromatic aldehyde, vanadium promoted, enantioselectivity and diastereoselectivity, 355
benzaldehyde, addition to diethylzinc, 1–(2–pyridyl methyl)–pyrrolidine in chiral catalysis, 843
chiral α–and β–alkoxyaldehydes, chelation–controlled ene reaction, stereocontrol over three contiguous chiral centers, 13
optically active hydroxyaldehydes, enantioselective synthesis using a chiral catalyst, 769
prochiral–, enantioselective alkylation by diethylzinc promoted by (S,S)–1,2–diphenylethan–1,2–diol, 587
reactions with chiral aryl metallic reagents, 287
with chiral imidozolidine group,diastereoselectivity of organometallic attack, 283

Aldol reactions
stereoselective–, with chiral acetates, 703

Alkaloids
Cinchona–, efficient chemo–enzymatic approach to (+)–meroquinene, 793
ephedrine and pseudoephedrine derivs, tricarbonyl

chromium promoted transformations, 817
quinolizidine–, enantioselective routes to lupinine and epilupinine, 147
slaframine and swainsonine, asymmetric synthesis of 1–hydroxyidolizidine biosynthetic precursors, 763

Alkanes
1,3–diacetoxypropanes, 2–substit, PPL catalysed monohydrolysis, effect of a π system, 721

Alkenes see Olfins

Alkylation
1–alkoxy–1,4–cyclohexadienes by chiral auxiliary approach, enantioselective synthesis of *cis*–hydrindane precursors, 547
asymmetric–, α–aryl substit carbonyl compds via chiral phase transfer catalysts, synthesis of (+)–podocarp–8(14)–en–13–one and (–)–Wy–16,225, a potent analgesic agent, 265
diastereo and regioselective Friedel–Crafts–, phenols, synthesis of 2–hydroxymandelic esters, 861
enantioselective–, prochiral aldehydes by diethylzinc promoted by (*S,S*)–1,2–di–phenylethan–1,2–diol, 587

Amides
2–bromopropanamide, enantioselective control in formation of model alanin–amide, 155
chiral diamides, enzymatic prep, 277
chiral lithium amides, regioselective enolization of optically active 3–keto steroids, 295
chiral lithium amides, deracemisation of axially dissymmetric compds via enantioselective dehydrohalogenation, 347

Amination
reductive–, (*R*)–O–protected α–hydroxy ketone, Mg ion mediated stereospecific formation of N–substit ethanol amines, 163

Amines
(*S*)–(N–alkylidene)–1–phenylethyl amines, diastereoselective addition to methyl–Cu and dimethylcuprate–boron trifluoride reagents, 291
amine functionalized water soluble derivs of chiral DIOP, CHIRAPHOS, and BDPP, prep, characterization, and quatern ization of Rh–complexes, 895

Amino acids
β–functionalised α–amino acids, cyclic sulphamidates as precursors, 881
(2*S*,3*R*,4*R*)–3,4–dihydr hydroxyproline, (2*S*,3*R*,4*R*)–3,4–dihydroxypipec olic acid, 1,4–dideoxy–1,4–imino–D–arabinitol and 1,5–imino–1,2,5–trideoxy–D–ara bino–hexitol, syntheses, 119
2–aminonorbornane–2–carboxylic acids, asymmetric synthesis by Diels–Alder reaction, 61
2–trifluoromethyl–4–aminobutyric acid, asymmetric synthesis of both enantiomers, 215
cycloaliphatic α–amino acids with norbornane skeleton, synthesis, 379
D–and L–mono–6–phenyl–alanine, coupling with 6–amino–β–cyclodextrin, formation of diastereomeric intramolecular inclusion compds, 367
enantiomeric glycidyl tosylates, stereoselective synthesis of (*R*)–and(*S*)–1–(2–amino–3–nitro–phenoxy)–3–(t–butylamino)–2—propanol, 579
γ–amino–β–hydroxybutanoic acid enantiomers, by enzymatic kinetic resolution of cyanohydrin acetates, 707
R–3–dimethylamino–3–phenyl propionic acid, abs config–via asymmetric synthesis of homochiral (*S*)–(+)–ethyl 3–dimethylamino–3–phenyl propionate, 279

Amino acid esters
γ–diamino–β–hydroxy amino acid esters, new class of amino acids, synthesis, 371
α–substit–, covalent diastereo isomers, synthesis and resolution. 611
chiral N–acetyl–α,β–de–hydroalinates as dienophiles in asymmetric Diels–Alder reactions, 379
N–methylamino acid–, building blocks, control of antiomeric purity by NMR method, 329

Amino alcohols
(*R*)– and (*S*)–1–(2–amino–3–nitrophenoxy)–3–(t–butyl–amia mino)–2–propanol, synthesis from enantiomeric glycidyl tosylates, 579
(*S*)–prolinol, synthesis of cyclic sulphamidate, N–protection and activation towards nucleophilic displacement of oxygen, 877
2*S*)–1–benzyloxy–2,3–propanediol and (2*R*)–1–amino–2,3–propane–diol, enantioselective synthesis from glycerol, 219
catalytic ring–opening of bridged tricyclic anhydrides, 517
ephedrine and pseudoephedrine derivs, tricarbonyl–Cr promoted transformations, 817
ethanolamines, N–substit via Mg ion mediated reductive amination of (*R*)–O–protected α–hydroxyketone, 163
N,O–diacetyl–2–amino–1–butanol, lipase–catalysed kinetic resolution in diisopropyl ether, 583
halostachine, ephedrine and pseudoephedrine, stereoselective cyclisation, prep of 1–phenyl–N–methyl–7,8–dimethoxy–1,2,4,5–tetrahydrobenzazepines, 33

Amino amides
model alaninamide, enantio–selective control in formation from 2–bromopropanamide, 155

Amino ketones
2–(ethoxycarbonyl–)cyaminocyclo hexanone, prep, 931
chiral α–amino ketones, non–racemizing synthesis and stereoselective reduction, 375

Aminolysis
enzymatic double–, between rac ester and ethylenediamine, prep of chiral diamides, 277

Antibiotics
(+)–asperlin, total synthesis, 137
avermectins, synthesis, development of an asymmetric Darzens type condensation, 571

Antioxidants
Darzens type condensation, avermectin synthesis, 571

Arenes
optically active 4,4',6,6'–tetra–chloro–2,2'–bis(hydroxydiphen–ylmethyl)–biphenyl, dein of abs config and optical purity of chiral compds, 303

Asymmetric induction
alkylation of α–aryl substit carbonyl compds via chiral phase transfer catalysts, synthesis of (+)–podocarp–8(14)–en–13–one and (–)–Wy–16,225, a potent analgesic agent 265
enantioselective hydroformylation of aromatic olefins, new platinum dichloride complexes catalyst, 417

Asymmetric reactions
asymmetrization of 2–substituted glycerols: syntheses of *R*–etomoxir and *R*–palmoxirate 421

bicyclo–aliphatic amino acids by Diels–Alder reaction using (–)–menthyl N–acetyl–αβ–dehydhydroalaninate as dienophile, 61
catalysis, enantioselective transfer hydrogenation of acetophenone by chiral Rh/3–alkyl phenanthroline,635
catalytic hydrogenation, application of chiral water soluble phosphines, 913
catalytic hydrosilylation, 1,3–dienes with chiral ferrocenyl phosphine–Pd complexes, 151
chiral acetals in synthesis, Report, 477
Diels–Alder reaction catalysed by chiral Lewis acids, 199
hydrolysis of *cis,cis*–5–benzoyl oxy–1,3–diacetoxy–cyclohexane and synthesis of chiral lactone moiety of compactin, 425
reduction of unhindered aliphatic ketones by Eapine–hydride, improved enantioselectivity, 433
synthesis of cycloaliphatic α–amino acids with norbornane skeleton, 379
synthesis of homochiral (S)–(+)–ethyl 3–dimethyl–amino–3–phenyl propionate, abs config of Winterstein's acid, 279
synthesis of orsellinic acid type macrolide, enantiomers of lasiodiplodin, 187
synthesis of orsellinic acid type macrolide, enantiomers of lasiodiplodin, 187Azepines

Azepines
homochiral 7–substit tetra–hydro-azepin-2-ones, prep, 593

Azido compounds
ethyl azidoformate, asymmetric addition to optically active enamines, facial selectivity reversed as compared with (ethoxycarbonyl)–nitrene, 931

Aziridines
1–chloro–2,2–dimethylaziridine, enantiomerically pure invertomers by semi–preparative complexation gas chromatography, 865
optical resolution by complex–ation with optically active host compds, 281
optically active N–chloro–2,2–bismethoxy–carbonylaziridine by enzymatic hydrolysis, 5

Benzazepines
1–phenyl–N–methyl–7,8–dimetho xy–1,2,4,5–tetra–hydrobenzazepi nes via stereoselective cyclisation, halostachine, ephedrine and pseudoephedrine, 33

Bicyclic alicyclic compounds
2,6,6–trimetylbicyclo[3.2.0]heptan –*endo*–2–ol and 2,5–dimethyl bicyclo[3.20]heptane derivs, biocatalytic prep, 111
functionalised bicyclo[2.2.2]–octanone with high optical purity via reduction with baker's yeast, 775

Bicyclic heterocyclic compounds
(–)–(1*R*,3*R*,5*S*)–1,3–dimethyl–2,9–dioxabi–cyclo–[3.3.1]nonane, enantio and stereoselective synthesis, 855

Boron and compounds
catalytic asymmetric hydroboration with oxazaborolidines, 869

Carbonyl compounds
α–aryl substit–, asymmetric alkylation ,via chiral phase tranfer catalysts, synthesis of a potent analgesic agent, 265

Carboxylic acids
β,γ–unsaturated–, with α quaternary C center via (vinylketenimine)tricarb–onyliron complexes, 531
(*S*)–2–phenylpropanoic acids, enantioselective synthesis, 299
chiral–, and dicyclohexyl–carbodiimide, kinetic resolution of rac alcohols, 851
orsellinic acid type macrolides, a asymmetric synthesis of enantiomers of lasiodiplodin, 187
tartaric acids, derived chiral auxiliaries and optically pure ketene equivalents, synthesis of (–)–7–oxabicyclo[2.2.1]hept–5–en–2–one,,729
unsaturated–, deracemisation via enantioselective dehydro–halogenation using chiral lithium amide, 347

Carboxylic acid anhydrides
bridged tricyclic–, catalytic asymmetric ring–opening, 517

Catalysis and catalysts
asymmetric–, enantioselective transfer hydrogenation of acetophenone by chiral Rh/3–alkyl phenanthroline, 635
asymmetric hydroboration with oxazaborolidines, 869
BINAP–Ru–, hydrogenation, dynamic kinetic resolution of 2–substituted 3–oxo carboxylic esters, 1
chiral 1–(2–pyridylmethyl)–pyrrolidine catalysed addition of diethylzinc to benzaldehyde, 843
chiral aluminum alcoholates, Diels–Alder reaction between cyclopentadiene and dienophiles,199
chiral ferrocenylphosphine–Pd complexes, asymmetric hydrosilylation of 1,3–dienes, 151
chiral N,N–dibutylnor–ephedrine catalysed enantioselective synthesis of optically active hydroxy–aldehydes, 769
chiral phase transfer–, asymmetric alkylation of α–aryl substit carbonyl compds, synthesis of (+)–podocarp–8(14)–en–13–one and (–)–Wy–16,225, a potent analgesic agent, 265
chiral rhodium phosphine–, regioselective hydroformylation of methyl N–acetamido–acrylate, 693
cinchona alkaloid asymmetric ring–opening of bridged tricyclic anhydrides, 517
enantioselective–, prep of optically active nortricyclenes, 589
Ni powder modified with NaBr/(*R,R*)–tartaric acid, enantioselective hydrogenation of methyl acetoacetate, 159
precursors, platinum dichloride complexes, hydroformylation of aromatic olefins, 417
Rh/chiral alkyl phenanthroline–, enantioselective hydrosilylation of acetophenone, 937

Chelation
controlled ene reaction with α–and β–alkoxyaldehydes, stereocontrol over 3 contiguous chiral centers, 13

Chirality
auxiliary,optically active thiol derived from camphor, 873
central–, natural 3–hydroxy–3–methyl–3,4–dihydroanthracene–1(2H)–ones, 621
chiral building blocks via PLE–catalysed hydrolysis of cis 5–substit 1,3–diacetoxy–cyclohexanes, 17
chiral compds, abs config from CD of in situ complex with $[Rh_2(O_2CCF_3)_4]$,221
chiral compds, optical purity and absolute configuration, use of optically active 4,4',6,6'–tetra chloro–2,2'–bis(hydroxy–di–phe nylmethyl)-bi-phenyl, 303
chiral propeller compd, tris–(2'–methylbenz–iimidazol–1'–yl) methane, chromatographic resolution, X–ray and dynamic NMR, 65
modification of Cahn, Ingold and Prelog classification, 171

Chromatography
gas–, enantiomerically pure invertomers of 1–chloro–2,2–di–ethymethylaziridine, 865

Chromium and compounds
tricarbonylchromium promoted stereoselective transformation,

of ephedrine and pseudo ephedrine derivs, 817

Circular dichromism
abs configuration of alcohols, olefins, epoxides and ethers from *in situ* complexes with [Rh2(O2CCF3)4], 221
abs config of alkyl group at α-position in acyclic α-alkyl-(*E*)-β,γ-en-oates, 389
steroidal 6-membered ketoximes, 649

Cleavage reactions
catalytic asymmetric ring-opening of bridged tricyclic anhydrides, 517
chiral acetals in asymmetric synthesis, Report, 477

Coenzymes
chiral organometallic NADH mimics, stereoselective reduction of ethyl benzoylformate using homochiral auxiliary [(η5-C5H5)Fe(CO)(PPh3)], 725
inhibition, synthesis of chiral lactone moiety in compactin, 425

Complexation
aziridines with optically active host compds, optical resolution of aziridines, 281
driving force in diasteroselective hydrogenation of dehydrodipeptides, 567

Complexes
(vinylketenimine)tricarbonyliron, generation of homochiral quaternary carbon centres, 531
chiral ferrocenylphosphine-Pd, catalytic asymmetric hydrosilylation of 1,3-dienes, 151
homochiral auxiliary [(η5-C5H5)Fe(CO)(PPh3)], use in stereoselective reduction of ethyl benzoylformate, 725
in situ-, alcohols, olefins, epoxides and ethers with [Rh2(O2CCF3)4], CD measurements, 221
inclusion-, 7-bromo-1,4,8-tri-, phenyl-2,3-benzo[3.3.0]octa-2,4,7-trien-6-one, solvent dependent crystallisation, 359
intramolecular host-guest-, D-and L-mono-6-phenylalanyl-amino-6-deoxycyclomalto-heptaoses, 367
optically active transition metal-, enantioselective synthesis of 3-oxabicyclo[3.3.0]-oct-7-en-7-phenyl-6-one via Khand-Pauson reaction, 711
platinum dichloride-, with (*R,R*)-bicyclo-[2.2.2]-octane-2,3-diyl(methylene)bis[diphenyl-phosphine]- or bis[5H-benzo[b]phosphinindole], 417
quaternization of Rh-, amine functionalized chiral DIOP, CHIRAPHOS and BDPP water soluble derivs, 895
[*S*-(*R**,*R**)]-(+)589[Pt9OSO2CF3 02{1,2-C6H4(PMePh)2}] and [(*S*-*R**,*R**)]-(+)589-[Pt(HOCH2 CH2OH){1,2-C6H4(PMe Ph2)}](CF3SO3)2, synthesis and crystal structure, 9

Configuration
abs-, 2,6,6-trimethyl- and 2,5-dimethyl- bicyclo[3.2.0]-heptan-*endo*-2-ols, 751
abs-, alcohols, olefins, epoxides and ethers from CD of *in situ* complexes with [Rh2(O2CCF3)4], 221
abs-, alkyl group at α-position in acyclic α-alkyl-(*E*)-β,γ-enoates by CD, 389
abs-, enantiomerically pure invertomers of 1-chloro-2,2-dimethylaziridine via semi-preparative complexation gas chromatography, 865
abs-, Winterstein's acid, by asymmetric synthesis of homo chiral (*S*)-(+)-ethyl 3-dimethylamino-3-phenyl propionate, 279
and optical purity of chiral compds, using optically active 4,4',6,6'-tetrachloro-2,2'-bis(hydroxydiphenylmethyl)-biphenyl, 303
bicyclic sulphamidites and sulfamidates, 885

Conformation
enantiomeric atropisomers, antioestrogen tamoxifen analog with rigidity, 97
palytoxin-related C-glycosides using molecular mechanics and analysis of coupling constants, 465

Copper and compounds
methylcopper- and di-methylcuprate/boron trifluoride reagents, diastereoselective addition to (*S*)-(N-alkylidene)-1-phenylethylamines, 291

Coupling reactions
D-and L-mono-6- phenylalanine with 6-amino-β-cyclodextrin, formation of diastereomeric intramolecular inclusion compds, 367
intermolecular pinacol cross-, vanadium promoted, enantio selectivity and diastereo selectivity, 355

Crystallisation
solvent dependent-, 7-bromo-1,4,8-triphenyl-2,3-benzo[3.3.0]octa-2,4,7-trien-6-oone as inclusion complex, 359

Cyano compounds
2-cyano glycinates, N-protected, resolution of derived multi functional carbon compds, 611
chiral (*E*)-2-cyanocinnamate, asymmetric Diels-Alder reaction with cyclopentadiene, (*S*)-ethyl lactate as chiral auxiliary, 765

Cyanohydrins
acetates, kinetic resolution, synthesis of γ-amino-β-hydroxybutanoic acid enantiomers, 707

Cyclic ketones
(-)-7-oxabicyclo-[2.2.1]hept-5-en-2-one,-chiral synthesis via chiral auxiliaries and optically pure ketene equivalents derived from tartaric acids, 729
(*trans*-4,5-dihydroxy-3-[(*E*)-1-propenyl]-2-cyclo-penten-1-one, racemic and optically active, synthesis, 237
3-oxabicyclo[3.3.0]oct-7-en-7-phenyl-6-one, enantioselective synthesis, via optically active transition metal complexes, 711
cis-bicyclo[3.3.0]octan-3,7-dione, asymmetric deprotonation, prep of chiral lactones, 699

Cyclisation
asymmetric-, intramolecular Michael addition of chiral imines to enoates, 167
stereoselective-, halostachine, ephedrine and pseudoephedrine to 1-phenyl-N-methyl-7,8-dimethoxy-1,2,4,5-tetrahydrobenzazepines, 33

Cycloaddition reactions
intramolecular-, nitrone to vinyl sulphur derivs, stereocontrol, 251

Cyclodextrins
6-amino-β-cyclodextrin, coupling with D- and L-mono-6-phenylalanine, formation of diastereomeric intramolecular inclusion compds, 367
vibrational Raman optical activity, 513

Cyclohexanes
(*R*)-1-methyl-2-cyclohexen-1-ol, synthesis from 1-cyclohexane methanol, 771
1,3-diacyloxycyclohexanes, *cis*-5-substit, PLE-catalyzed hydrolysis, prep of chiral building blocks, 17

Cyclononanes
cyclononyl systems, stereochemical studies, 319

Cyclopropanes
α–hydroxycycloprop—anes with trifluoromethyl group, stereocontrolled synthesis, 351

Dehydrohalogenation
enantioselective–, deracemisation of axially dissymmetric compds using chiral lithium amides, 347

Deprotonation
asymmetric–, *cis*–bicyclo[3.3.0]–octan–3,7–dione, prep of chiral lactones, 699

Deracemisation
axially dissymmetric compds by enantioselective dehydro–halogenation using chiral lithium amides, 347

Diastereoselection
addition of methyl–Cu– and di–methylcuprate–boron trifluoride reagents to (*S*)–(N–alkylidene)–1–phenylethylamines, 291
and enantioselective intermolecular pinacol cross coupling, promoted by vanadium, 355
and regioselective Friedel–Crafts alkylation of phenols, synthesis of 2– hydroxy mandelic esters, 861
and regioselective transformations of cyclopentadiene adducts, 335
chelation–controlled ene reaction with chiral α–and β–alkoxy aldehydes, stereocontrol over 3 contiguous chiral centers, 13
hydrogenation of dehydro dipeptides, complexation as driving force, 567
of organometallic attack on aldehydes with chiral imidaz–olidine group, 283

Dienes
1,3–dienes, catalytic asymmetric hydrosilylation with chiral ferrocenylphosphine–Pd complexes, 151
1–alkoxy–1,4–cyclohexadienes, alkylation by chiral auxiliary approach, enantioselective synthesis of *cis*–hydrindane precursors, 547
cyclopentadiene adducts, diastereo selective and regioselective transformations, 335
cyclopentadiene, asymmetric Diels– Alder reaction with chiral (*E*)–2–cyanocinnamate, (*S*)–ethyl lactate as chiral auxiliary, 765
cyclopentadiene, reaction with (*E*)–2– cyanocinnamate of (*S*)–ethyl lactate 765

Diols
(*S,S*)–1,2–diphenyl–1,ethan–1,2–diol, promoted enantioselective alkylation of prochiral aldehydes by diethylzinc, 587

Drugs
(+)–podocarp–8(14)–en–13–one and (–)–Wy–16225,analgesic agent, 265
1–phenyl–N–methyl–7,8–dimetho xy–1,2,4,5–tetra–hydrobenzazepi nes via stereoselective cyclisation, halostachine, ephedrine and pseudoephedrine, 33
chiral β–blockers, route via asymmetric dihydroxylation of aryloxy allyl ethers, 697
enantiomeric atropisomers of anti–oestrogen tamoxifen analog with rigidity, synthesis and conformation, 97
individual, pharmacologically dintinct enantiomers of tetrahydrocannabinol deriv, synthesis, 315
optically active forskolin intermediate via allenyl ether intramolecular cycloaddition, 743

Enamines
optically active–, asymmetric addition to ethyl azidoformate, facial selectivity reversed as compared with(ethoxycarbonyl) nitrene 931

Enantiomeric purity and Enantiomers
purity of N–Boc N–methylamino acid building blocks, control by NMR method, 329
purity of alcohols, by ^{31}P NMR via new reagent, 437
enantiomers of 2–trifluoro–methyl–4–aminobutyric acid, asymmetric synthesis, 215
invertomers of 1–chloro–2,2–di–metmethylaziridine via semi–preparative complexation gas chromatography, 865
optically active sulfoxides with chelating properties, prep, 597
pure enantiomers from retro–Diels–Alder processes, 335

Enantioselectivity
alkylation of prochiral aldehydes by di–ethyzinc promoted by (*S,S*)–1,2–di–phenylethan–1.2–diol, 587
and diastereoselective intermolecular pinacol cross coupling, promoted by vanadium, 355
and stereoselective synthesis of (–)–(1*R,3R,5S*)–1,3–di–methyl–2,9–dioxabi–cyclo[3.3.1]nonane, 855
catalysed prep of optically active nortricyclenes, 589
control in formation of model alaninamide from 2–bromo propanamide, 155
dehydrohalogenation, deracemisation of axially dissymmetric compds using chiral lithium amides, 347
enantioselective hydrosilylation of acetophenone, Rh/chiral alkyl phenanthroline catalysis, 937
enzymatic acylation using acid anhydrides, removal of acid crucial, 541
hydrogenation of methyl acetoacetate using Ni powder modified with NaBr/(*R,R*)–tartaric acid, 159
hydrolysis using *Pseudomonas fluorescens lipase*, stereo–chemical observations,395
PLE–catalyzed hydrolysis of *cis*–5–substit 1,3–diacyloxy–cyclo–hex–anes, prep of some useful chiral building blocks, 17
PPL catalysed monohydrolysis of 2–substit 1,3–di–acetoxypro–panes, effect of π system, 721
Pseudomonas lipase hydrolysis, acetates of rac 1–phenyl–1–alkanols, 87
solvent–dependent crystallization of 7–bromo–1,4,8–tri–phenyl–2,3–benzo[3.3.0]octa–2, 4,7–trien–6–one as inclusion complex, 359
syntheses,(2*S*)–1–benzyloxy–2,3–propanediol and (2*R*)–1–amino–2,3–propanediol from glycerol 219
syntheses,(2*S*)–2–phenylpro–panoic acid, 299
synthesis of α–aryl thioglycolic acid derivs, 143
synthesis of *cis*–hydrindane precursors, 547
synthesis of optically active hydroxy–aldehydes using a chiral catalyst, 769
synthesis of orsellinic acid type macrolides, enantiomers of lasiodiplodin, 187
transfer hydrogenation of acetophenone by chiral Rh/3–alkyl phenanthroline, 635

Enantiospecificity
synthesis of 1,3–di–methyl–6–oxiranyl—pyrimidine–2,4–dione with anti–ASFV activity, 441
synthesis of optically active aliphatic sulfenyl chlorides and thiophthalimides, 141

Ene reactions
chelation–controlled–, with chiral α–and β–alkoxyaldehydes, stereocontrol over 3 contiguous chiral centers, 13

Enolates
enolization, regioselectivity, optically active 3–keto steroids using chiral lithium amides, 295

Enzymes
acylation using acid anhydrides, removal of acid crucial, 541
chemo–enzymatic approach to (+)–meroquinene, 793

kinetic resolution of cyanohydrin acetates, synthesis of γ-aino-β-hydroxy-butanoic acid enantiomers, 707
esterases, lipases and acylases, resolutions, prep of optically active fluoroalcohols, 661
lipase-catalysed kinetic resolution ofN,O-diacetyl-2-amino-1-butanol in diisopropyl ether, 583
lipase-catalysed resolution of hydroxy sulfones, 575
lipase hydrolysis, prep of optically active N-chloro-2,2-bis-methoxycarbonylaziridine, 5
lipase-mediated resolutions of SPAC reaction products, 57
lipase resolution, bicyclo-[3.2.0]hept-2-en-6yl esters, effect of substit at C-7 vicinal to alcoholic center, 111
optical resolution, prep of ethyl 2,3-di- hydroxy-4,4,4-tri-fluoro butyrates, 521
PLE-catalyzed hydrolysis, *cis*-5-substit 1,3-di-acyloxy-cyclohexanes, prep of chiral building blocks, 17
porcine pancreas carboxylesterase, activity and selectivity, esterifi-cation depending on structure of alcoholic substrate, 783
PPL catalysed monohydrolysis of 2-substit 1,3-di-acetoxypro-panes , effect of a π system, 721
prep of chiral diamides, 277
prep of enantiomers of 1-phenyl-1-alkanols, 87
resolution, arylpiperidine deriv using lipase catalyzed hydrolysis, 535

Epoxides
chiral-, abs- configuration from CD of *in situ* complex with [Rh2(O2CCF3)4], 221

Esters
γ-hydroxy-α,β-unsat-urated methyl esters resolved by irreversible biocatalytic acylations, 57
2-hydroxymandelic esters, via diastereo and regioselective Friedel-Crafts alkylation of phenols, 861
3-oxo carboxylic esters, 2-substit, dynamic kinetic resolution via BINAP-Ru catalysed hydro-genation, 1
alkyl group at α-position in acyclic α-alkyl-(*E*)-βγ-enoates, abs configuration by CD, 389
bicyclo[3.2.0]hept-2-en-6-yl-, resolution, effect of substit at C-7 vicinal to alcoholic center, 111
chiral acetates, stereoselective aldol reaction, 703
ethyl 2,3-dihydroxy-4,4,4-trifluoro- butyrates, prep via enzymatic optical resolution, 521
ethyl benzoylformate, stereoselective reduction using homochiral auxiliary [(η5-C5H5)Fe(CO)(PPh3)], 725
homochiral (*S*)-(+)-ethyl 3-dimethylamino-3-phenyl propionate, asymmetric synthesis, abs configuration of Winterstein's acid, 279
methyl acetoacetate, enantio-selective hydrogenation using Ni powder modified with NaBr/(*R,R*)-tartaric acid, 159
methyl acrylate, addition of imine to form furanones, 753

Esterification
dicyclohexylcarbodiimide-, kinetic resolution of rac alcohols, 851
enzymatic-, activity and selectivity of porcine pancreas carboxylesterase depending on structure of alcoholic substrate, 783

Ethers
aryloxy allyl ethers, Sharpless asymmetric hydroxylation, route to chiral β-blockers, 697
chiral-, abs config from CD of *in situ* complex with [Rh2(O2CCF3)4], 221

Fluoro compounds
asymmetric synthesis, 759
chiral fluoroorganic compds, prep and prop 661
ethyl 2,3-dihydroxy-4,4,4-trifluorobutyrates, prep via enzymatic optical resolution, 521

Fungi
pigments, synthesis of methyl(*R*)-(+)-tetrahydro-2-methyl-5-oxo-2-furanacetate and its (*S*)-(-)- antipode, stereochemistry of pre-anthraquinones, 453

Furanones
menthyloxy-2[5H]-furanone, Michael addition of lithio diphenylphosphine, synthesis of *S,S*-CHIRAPHOS, 719

Glycerol
enantioselective syntheses of 2*S*)-1-benzyloxy-2,3-propanedi ol and (2*R*)-1-amino-2,3-propanediol, 219
optically active 2-substit glycerols and conversion into hypogly-cemic *R*-etomoxir and *R*-palmoxirate, 421

Glycosides
palytoxin-related C-, confor-mation using molecular mechanics and analysis of coupling constants, 465

Hormones
antioestrogen tamoxifen analog with rigidity, enantiomeric atropisomers, synthesis and conformation, 97

Hydrindanes
cis-hydrindane precursors, synthesis, 547

Hydroformylation
enantioselective-, aromatic olefins, new catalyst precursors, 417
regioselective-, methyl N-acetamidoacrylate by chiral Rh phosphine catalysts, 693

Hydrogenation
BINAP-Ru catalysed-, dynamic kinetic resolution of 2-subst 3-oxo carboxylic esters, 1
catalytic asymmetric-, application of chiral water soluble phos-phines, 913
diastereoselective-, dehydro-dipeptides, complexation as driving force, 567
methyl acetoacetate using Ni powder modified with NaBr/-(*R,R*)-tartaric acid, 159
transfer-, acetophenone by chiral rhodium/3-alkyl phenanthroline, 635

Hydrolysis
acetates of rac 1-phenyl-1-alkanols by *Pseudomonas* lipase, 87
asymmetric-, cis,cis-5 benzyloxy-1,3-diacetoxycycloh exane, synthesis of chiral lactone moiety in compactin, 425
lipase-, prep of optically active N-chloro-2,2-bismethoxycarbo nylaziridine, 5
PLE-catalyzed-, *cis*-5-substit 1,3-diacyloxy-cyclo-hexanes, prep of chiral building blocks, 17
using *Pseudomonas fluorescens lipase*, stereochemical obser-vations,395

Hydroxylation
Sharpless asymmetric dihydroxylation of aryl allyl ethers, route to chiral β-blockers, 697

Imidazoles
imidazolidine group bearing aldehydes, diastereoselectivity of organometallic attack, 283

Imides
optically active N-(alkylthio) phthalimides via enantiospecific conversion of sec chiral alcohols into sulfenyl chlorides, 141

Imines
chiral–, intramolecular Michael addition to enoates, asymmetric carbocyclization, 167

Indolizidines
chiral 1–hydroxy–indolizidines, biosynthetic precursors of slaframine and swainsonine, asymmetric synthesis, 763

Iron and compounds
(vinylketenimine)tricacarbonyliron complexes, generation of homochiral quaternary carbon centers 531

Ketenes
optically pure equiv and chiral auxiliaries derived from tartaric acids, synthesis of (–)–7–oxabicyclo[–2,2,1]hept–5–en–2–one, 729

Ketones see also Cyclic ketones,
acetophenone transfer hydrogenation by chiral Rh/3–alkyl phenanthroline, 635
asymmetric reduction via 2–hydroxy–1,2– diphenylethyl phenyl phosphinate, 737

Lactams
homochiral unsat 7–membered–, synthesis, 593

Lactones
3–azido– and 3–fluoro–γ–lactones, ring contraction of α–triflates ω oxetanes 715
chiral–, derived from *cis*–bicyclo[3.3.0]–octan–3,7–dione via asymmetric deprotonation, 699
homochiral dibenzyl–butyrolactone lignans, asymmetric synthesis by conjugate addition to chiral butenolide, 857

Lignans
homochiral dibenzyl–butyrolactone lignans, asymmetric synthesis by conjugate addition to chiral butenolide, 857

Macrolides
orsellinic acid type–, asymmetric synthesis of enantiomers of lasiodiplodin, 187

Magnesium and compounds
ion mediated stereospecific formation of N–substit ethanolamines, reductive amination of (*R*)–O–protected–α–hydroxyketone, 163

Mercury and compounds
stereoselective intramolecular amidomercuration, synthesis of chiral *trans*–2,5–dialkyl–pyrrolidines, 561

Metabolites
terrein, racemic and optically active, synthesis, 237

Metals
chiral aryl metallic reagents, reactions with aldehydes, 287
complex formation, effect on hydrogenation of dehydro–dipeptides, 567
organometallic attack on aldehydes with chiral imidazolidine group, diastereoselectivity, 283

Microbial reactions
sulfoxidation, prep of optically active (Z)–(*R*)–(+)–methyl 2–phenyl–2–(pyrid–4–yl) vinyl sulfoxide, 311

Models
enzymatically catalysed esterifications in organic media, 783
molecular mechanics–, transition state of 1,4–addition to α,β–unsat carbonyl compds with γ–stereocenter, 21

Named reactions
2–aminonorbornane–2–carboxylic acids, asymmetric synthesis by *Diels–Alder* reaction, 61
asymmetric *Darzens* type condensation, avermectin synthesis, 571
chiral (*E*)–2–cyano– cinnamate, asymmetric *Diels–Alder* reaction with cyclo–pentadiene, (*S*)–ethyl lactate as chiral auxiliary, 765
chiral N–acetyl–αβ–dehydro alinates as dienophiles in asymmetric *Diels–Alder* reactions, 379
diastereo and regioselective *Friedel–Crafts* alkylation of phenols, synthesis of 2–hydroxymandelic esters, 861
Diels–Alder reaction catalysed by chiral Lewis acids, 199
intramolecular *Michael* addition, chiral imines to enoates, asymmetric carbo–cyclization, 167
modification of the *Cahn, Ingold* and *Prelog* classification of chirality, 171
enantioselective dynthesis of 3–oxa–bicyclo[3.3.0]oct–7–en–7–phenyl–6–one via *Khand–Pauson* reaction, 711
pure enantiomers from retro–*Diels–Alder* processes, 335
Sharpless asymmetric dihydroxylation of aryloxy allyl ethers. route to chiral β–blockers, 697
stereoselective *Diels–Alder* reactions of new chiral carbamoylnitroso compd, 363

Nickel and compounds
Ni powder modified with NaBr/(*R,R*)– tartaric acid, enantioselective catalytic hydrogenation of methyl acetoacetate, 159

Nitrones
intramolecular cycloaddition to vinyl sulphur derivs, stereocontrol, 251

Nitroso compounds
chiral carbamoyl– nitroso compd, stereoselective Diels–Alder reactions, 363

Nuclear magnetic resonance
6–amino–β–cyclodex—trin, coupling with D–and–L–mono–6–phenylalanine, formation of diastereomeric intramolecular inclusion compds, 367
bicyclic sulphamidates, synthesis and configuration, 885
chiral propeller compd tris–(2'–methylbenz–imidazol–1'–yl) methane, 65
conformation of enantiomeric atropisomers, antiestrogen tamoxifen analog with rigidity, 97
control of antiomeric purity of N–methyl–amino acid ester building blocks, 329

Nucleosides
antiviral oxetane–, epinoroxetanocin from D–lyxonlactone, 527
oxetane nucleosides α– and β–noroxetanocin, synthesis, 525

Olefins
aromatic–, catalyst precursors for enantioselective hydroformylation, 417
chiral–, abs– config from CD of *in situ* complex with [Rh2(O2CCF3)4], 221

Organisms
Aspergillus nidulans, total synthesis of (+)–asperlin, 137
Aspergillus terreus, racemic and optically active terrein, synthesis, 237
Candida cylindracea, lipase, selective transesterification, 707
Dendroctonus pseudosugae synthesis of (*R*)–1–methyl–2–cyclohexen–1–ol, constit of aggregation pheromone, 771
Coleus forskohlii, synthesis of optically active forskolin intermediate, 743
Mortierella isabelliona, sulfoxidation, prep of optically active (Z)–(*R*)–(+)–methyl 2–phenyl–2–(pyrid–4–yl) vinyl sulfoxide, 311
Pseudomonas fluorescens, lipase hydrolysis, stereochemical observations, 395; synthesis of chiral aminocyclitols via epoxyepimination 403

Rhizoctonia leguminicola, asymmetric synthesis of 1–hydroxy–indolizidines bio precursors of slaframine and swainsonine, 763

Oxazolidines
2–methoxy–nor–ephedrine–derived, stereoconvergent crotylstannane addition, 429

Oxetanes
via ring contraction of α–triflates of 3–azido–and 3–fluoro–γ–lactones, 715

Oximes
steroidal 6–membered ketoximes, circular dichroism, 649

Peptides and polypeptides
dehydrodipeptides,diastereo–selective hydrogenation, complexation as driving force, 567

Perfumes
sandalwood–, (*Z*)– and (*E*)–β–santalol and enantiomers, ent–β–santalene, syntheses, 537

Pharmacologically active compounds
(+)–asperlin, total synthesis, 137
(*R*)– and (*S*)–1–(2–amino–3–nitrophenoxy)–3–(t–butylamino) –2–propanol, synthesis from enantiomeric glycidyl tosylates, 579
antiviral oxetane nucleoside, epinoroxetanocin from D–lyxonolactone 527
individual enantiomers of tetrahydro–cannabinol deriv, synthesis, 315
optically active sulfoxides with chelating properties, prep, 597
oxetane nucleosides α– and β–nor–oxetanocin, synthesis, 525
synthesis of 1,3–dimethyl–6–oxiranyl–pyrimidin–2,4–dione with anti–ASPV activity, 441

Pheromones
sulcatol, enantiomers, prep, 445
(*R*)–1–methyl–2–cyclohexen–1–ol, constit of pheromones of *Dendroctonus pseudotsugae*, synthesis, 771

Phosphines
chiral water soluble derivs, prep and characterization of amine functionalized DIOP, CHIRAPHOS and BDPP and quaternization of Rh–complexes, 895
chiral water soluble phosphines, applications in catalytic asymmetric hydrogenation, 913
lithiodiphenylphosphine, Michael addition to menthyloxy–2[5H]–furanone, enantio–selective synthesis of S,S–CHIRAPHOS, 719

Phosphinic acid and derivatives
chiral 2–hydroxy–1,2–diphenylethyl phenylphos–phinate, reagent, asymmetric reduction of ketones, 737

Pigments
flavomannin type–, degradative detn of central chirality in natural 3–hydroxy–3–methyl–3,4–dihydroanthracen–1(2*H*)–ones, 621
fungal pre–anthraquinones, synthesis of methyl (*R*)–(+)–tetrahydro–2–methyl–5–oxo–2–furanacetate and its (*S*)–(–)–antipode, 453

Piperidines
(+)–meroquinene, efficient chemo– enzymatic approach, 793
arylpiperidine deriv, resolution using lipase catalyzed hydrolysis, 535
chiral–, construction of N–ring, 119

Platinum and compounds
alcohol complexes, syntheses and crystal structures, 9
platinum dichloride complexes with (*R,R*)–[(bicyclo[2.2.2]–octane–2,3–diyl)bis(methylene)] bis[diphenylphosphine]– or bos[5H–benzo[b]phosphinindole], 417

Polycyclic aromatic compounds
natural 3–hydroxy–3–methyl–3,4–dihydro–anthracen–1(2*H*)–ones, central chirality, 621
optically active nortricyclenes via enantioselective catalysis, 589

Polycyclic heterocyclic compounds
chiral Rh/3–alkyl phenanthroline, acetophenone transfer hydrogenation, 635
Rh/chiral alkyl phenanthroline catalysts in enantioselective hydrosilylation of aceto–phenone, 937

Pyrimidines
1,3–dimethyl–6–oxiranylpyrimidin –2,4–dione, enantioselective synthesis, 441

Pyrrolidines
1–(2–pyridylmethyl)—pyrrolidine in chiral catalysis, addition of diethylzinc to benzaldehyde, 843
2–(N,N–dialkylamino)methyl– and (methoxymethyl pyrrolidines via cyclic sulfamidate of (*S*)–prolinol, 877
chiral *trans*–2,5–dialkyl–pyrrolidines via stereoselective intramolecular amido–mercuration, 561
chiral–, construction of N–ring, 119

Raman spectra
vibrational Raman optical activity of cyclodextrins, 513

Reagents
chiral 2–hydroxy–1,2–di–phenylethyl phenyl–phosphinate for asymmetric reduction of ketones, 737
chiral aryl metallic–, reactions with aldehydes, 287
chiral shift–, and optical resolution, optically active 4,4',6,6'–tetrachloro–2,2'–bis(hydroxydiphenylmethyl)–biphenyl as host, 303
chiral and non–chiral fluorination, 661
methylcopper–and di–methylcuprate–boron trifluoride–, diastereo–selective addition to (*S*)–(N–alkylidene)–1–phenylethylamines, 291

Reduction
asymmetric–,unhind aliphatic ketones, new reagent, 433
asymmetric–, ketones via chiral reagent, 737
baker's yeast reduction, prep of functionalised bicyclo[2.2.0]–octanone with high optical purity, 775
baker's yeast–, prep of functionalised bicyclo [2.2.2]octanone with high optical purity, 775
stereoselective–, and non–racemizing synthesis of chiral α–amino ketones, 375
stereoselective–, ethyl benzoylformate using homochiral auxiliary [(η^5-C5H5)Fe(CO)(PPh3)], 725

Regiocontrol
and stereoselective control, alkylation of 1–alkoxy–1,4–cyclo–hexadienes by chiral auxiliary approach, enantio–selective synthesis of *cis*–hydrindane precursors, 547

Regioselection
and diastereoselective Friedel–Crafts alkylation of phenols, synthesis of 2–hydroxy–mandelic esters, 861
enolization of optically active 3–keto steroids using chiral lithium amides, 295
hydroformylation of methyl N–acetamido–acrylate by chiral rhodium phosphine catalysts, 693

Resolution
2,6,6–trimetyl– and 2,5–dimethyl–bicyclo[3.2.0]–heptan–*endo*–2–ol, 751
bicyclo[3.2.0]hept–2—en–6–yl esters, effect of substit at C–7 vicinal to alcoholic center, 111
C1– and C3–oxygenated vinylsilanes, 801
chromatographic–, on triacetyl cellulose, chiral propeller compd tris–(2'– methylbenzimid–azol–1'–yl)methane, 65
dynamic kinetic–, BINAP–Ru catalyzed hydrogenation, 2–substituted 3–oxo carboxylic esters, 1
enzymatic optical–, prep of ethyl 2,3–dihydroxy–4,4,4–trifluoro–butyrates, 521enzymatic–, aryl–piperidine deriv using lipase catalyzed hydrolysis, 535
enzymatic kinetic–, cyanohydrin acetates, 707
kinetic–, racemic alcohols with chiral carboxylic acids and dicyclohexylcarbodiimide, 851
lipase–catalysed kinetic–, N,O–di–acetyl–2–amino–1–butanol in diisopropyl ether, 583
lipase–catalysed–, hydroxy sulfones, 575
lipase–mediated–, of SPAC reaction products, 57
multifunctional carbon compds derived from N–protected 2–cyano glycinates, 611
optical–, aziridines by complexation with optically active host compds, 281

Rhodium and compounds
chiral Rh phosphine catalysts for regioselective hydroformylation of N–acetamidoacrylate, 693
complexes of amine functionalized chiral DIOP, chiraphos, and BDPP water soluble derivs, quaternization, 895
Rh/chiral alkyl phenanthroline catalysts in enantioselective hydrosilylation of aceto–phenone, 937
[Rh2(O2CCF3)4], *in situ* complexes with alcohols, olefins, epoxides and ethers, CD measurements, 221

Ring transformations
ring contraction of 6–alkoxy–2,3–dihydro–6H–pyran–3–ones, synthesis of racemic and optically active terrein, 237

Ruthenium and compounds
BINAP–Ru catalysed–, dynamic kinetic resolution of 2– substit 3–oxo carboxylic esters, 1

Silicon and compounds
C1– and C3–oxygenated vinylsilanes, synthesis, resolution and abs stereochemical assign–ment, 801
cyanotrimethylsilane, reactions with alkynyl silanes, 477
hydrosilylation of acetophenone, rhodium/chiral alkyl phenanthroline catalysis, 937

Solvents and solvent effects
dependent crystalization of 7–bromo–1,4,8–triphenyl–2,3—benzo[3.3.0]octa–2,4,7–trien–6–one as inclusion complex, 359
fungal pre–anthra–quinone pigments, 453
C1– and C3–oxygenated vinylsilanes, 801
studies of cyclononyl systems, 319
vibrational Raman optical activity of cyclodextrins, 513

Stereochemistry
enantioselective hydrolysis using *Pseudomonas fluorescens* lipase, 395

Stereocontrol
and regiocontrol, alkylation of 1–alkoxy–1,4–cyclohexadienes by chiral auxiliary approach, enantioselective synthesis of *cis*–hydrindane precursors, 547
intramolecular nitrone cyclo–addition to vinyl sulphur derivs, 251
over 3 contiguous chiral centers, chelation–controlled ene reaction with chiral α–and β–alkoxyaldehydes, 13
synthesis of α–hydroxy cyclopropanes with a trifluoromethyl group, 351

Stereoisomerism
four steroisomers of a 6–carbon synthon, stereoselective route, 307

Stereoselection
aldol reaction with chiral acetates, 703
and enantioselective synthesis of *(–)–(1R,3R,5S)–1,3–dimethyl*–2,9–dioxabicyclo[3.3.1]nonane, 855
cyclisation, halo–stachine ephedrine and pseudoephedrine to 1–phenyl–N–methyl–7,8–di–methoxy–1,2,4,5–tetrahydrobenz azepines, 33
Diels–Alder reactions of new chiral carbamoylnitroso compd, 363
electrophilic addition to(Z,Z)–1–hydroxy–cyclonona–2,6–diene and *(Z)–threo*–1–hydroxy–2,3–epoxy– 6–cyclononene, 319
intramolecular amidomercuration, synthesis of chiral *trans* 2,5–dialkylpyrrolidines, 561
prep of ethyl 2,3–dihydroxy–4,4,4–trifluoro–butyrates via enzymatic optical resolution, 521
reduction and non–racemizing synthesis of chiral α–amino ketones, 375
route to four stereoisomers of a 6–carbon synthon 307
synthesis of α,γ–diamino–β–hydroxy amino acid esters, new class of amino acids, 371
synthesis of *(R)*– and *(S)*–1–(2–amino–3–nitrophenoxy) –3–(t–butylamino)–2–propanol from enantiomeric glycidyl tosylates, 579
tricarbonylchromium promoted trans– formations of ephedrine and pseudoephedrine derivs, 817

Stereospecificity
Mg ion mediated formation of N–substituted ethanolamines reductive amination of *(R)*–O–protected–α–hydroxyketone, 163

Steroids and sterols
6–membered ketoximes, circular dichroism, 649
antioestrogen tamoxifen analog with rigidity, enantiomeric atropisomers, synthesis and conformation, 97
optically active 3–keto steroids, regio– selective enolization using chiral lithium amides, 295

Substituent effects
at C–7 vicinal to alcoholic center, effect on resolution of bicyclo[3.2.0]– hept–2–en–6yl esters, 111

Sulfamidates
bicyclic–, synthesis and configuration, 885
cyclic–, of *(S)*–pro– linol, synthesis, N–protection and activation towards nucleophilic dis– placement of oxygen, 877
cyclic–, precursors for β–functionalised α–amino acids, 881

Sulfamidites
bicyclic–, synthesis and configuration, 885

Sulfenic acid and derivatives
optically active sulfenyl chlorides via enantiospecific conversion of sec chiral alcohols, 141

Sulfides
Ti catalysed oxidation to sulfoxides, 597

Sulfones
hydroxy sulfones, lipase–catalysed resolution, 575

Sulfoxides
optically active *(Z)–(R)–(+)*–methyl 2–phenyl–2–(pyrid–4–yl) vinyl sulfoxide, synthesis and structure, 311

optically active (Z)–(R)–(+)–methyl 2–phenyl–2–(pyrid–4–yl) vinyl sulfoxide, synthesis and structure, 311
optically active–, with chelating properties, prep, 597

Sulfur compds
vinyl sulphur derivs, intramolecular cycloaddition of nitrones, stereo– control, 251

Terpenoids
(Z)– and (E)–β–santalol and enantiomers ent–β–santalene, syntheses, 537
camphor, derived optically active thiol, chiral auxiliary, 873
optically active forskolin intermediate via allenyl ether intramolecular cycloaddition, 743

Theoretical calculations
molecular mechanics, confirmation of palytoxin–related C–glycosides, 465
molecular mechanics model, transition state of 1,4–addition to αβ–unsaturated carbonyl compds with γ–stereocenter, 21

Thiocarbonyl compds
α–aryl thioglycolic acid derivs, synthesis, 143

Thiols
optically active thiol derived from camphor, chiral auxiliary, 873

Tin and compounds
crotylstannane, stereoconvergent addition to–nor–ephedrine–derived 2–methoxy oxazolidines, 429

Transition states
molecular mechanics model, 1,4–addition to α–β –unsaturated carbonyl compds with γ–stereocenter, 21

Vanadium and compounds
promoted diastereo– and enantioselective intermolecular pinacol cross coupling, 355

Vitamins
(d)–biotin, precursor, via intramolecular cycloaddition of vinyl sulphur derivs to nitrones, 251

X–rays
crystal structure of [*S*–(*R***R**)]–(+)589–[Pt9OSO2CF302{1,2–C6H4(PMePh)2}] and [(*S*–(*R***R**)*J*–(+)589–[Pt(HOCH2CH2OH){1,2–C6H4(PMe Ph2}](CF3SO3)2, 9
oxazolidines structure of 9–(2,4–O(R)–benzylidene–β–D–threooxetanosyl)adenine,527
structures of racemic and one emtiomer of chiral propeller compd tris–(2'–methylbenzimidazol–1'–yl)methane, 65

Zinc and compds
diethylzinc, addition to benzaldehyde, 1–(2–yridylmethyl)–pyrrol–idine in chiral catalysis, 843

Author Index 1990

Aitken R.A. and Gopal J. Catalytic asymmetric ring–opening of bridged tricyclic anhydrides 517

Alcock N.W. Pike G.A. Richards C.J. Thomas S.E. Generation of homo chiral quaternary carbon centres from (vinylkentenimine)tricarbonyl-iron (O) complexes 531

Alexakis A. Sedrani R. Normant J.F. and Mangeney P. Chiral aminal templates–III. Diastereo–selectivity of organometallic attack on aldehydes bearing a chiral imidazolidine group 283

Alexakis A. Mutti S. Normant J.F. and Mangeney P. A new reagent for a very simple and efficient determination of enantiomeric purity of alcohols by ^{31}P NMR 437

Alexakis A. Mangeney P. Chiral acetals in asymmetric synthesis 477

Alexakis A. see Commercon M. 287

Alker D. Doyle K.J. Harwood L.M. and McGregor A. The direct synthesis of the cyclic sulphamidate of (*S*)–prolinol: sim ultaneous N–protect– ion and activation towards nucleophilic displacement of oxygen 877

Annunziata R. Cinquini M. Cozzi F. Giaroni P. and Raimondi L. Stereocontrol in the intramolecular nitrone cycloaddition to vinyl sulphur derivatives 251

Annunziata R. Cinquini M. Cozzi F. and Giaroni P. Vanadium (II) pro moted diastereo– and enantioselective intermolecular pinacol cross coupling 355

Appelt A. Ariaratnam V. Willis A.C. and Wild S.B. Alcohol complexes of platinum(II). Syn–theses and crystal structures of [*S*–(*R**,*R**)]–(+)589–[Pt(OSO2CF3)2{1,2–C6H4(PMePh)2}]and[*S*–(*R**,*R**)–(+)589–[Pt(HOCH2CH2OH){1,2–C6H4(PMePh)2}]–(CF3SO3)2 9

Ariaratnam V. see Appelt A. 9

Avenoza A. Cativiela C. Mayoral J.A. Peregrina J.M. and Sinou D. Reaction of cyclopentadiene with (*E*)–2–cyanocinnamate of (*S*)–ethyl lactate 765

Baba K. see Ibuka T. 389

Baldenius K.–U. and Kagan H.B. Synthesis of new optically active sulfoxides with chelating properties 597

Baldwin J.E. Spivey A.C. and Schofield C.J. Cyclic sulpham–idates: new synthetic precursors for β– functionalised α– amino acids 881

Banba Y. see Takahata H. 763

Banfi L. see Guanti G. 721

Barron L.D. Gargaro A.R. Wen Z.Q. MacNicol D.D. and Butters C. Vibrational Raman optical activity of cyclodextrins 513

Beckmann M. Hildebrandt H. and Winterfeldt E. Pure enantiomers from retro–Diels–Alder processes 335

Belikov V.M. see Lisichkina I.N. 567

Berger B. Rabilier C.G. Konigsberger K. Faber K. and Griengl H. Enzymatic acylation using acid anhydrides: crucial removal of acid 541

Bernardi A. Capelli A.M. Gennari C. and Scolastico C. 1,4-Addition to α,β-unsaturated carbonyl compounds bearing γ–stereo– center: a molecular mechanics model for steric interactions in the transition state 21

Bernotas R. see Mori K. 87

Bevinakatti H.S. and Newadkar R.V. Lipase–catalysed kinetic resolution of N,O–diacetyl–2–amino–1–butan ol in diisopropyl ether 583

Bigi F. Casnati G. Sartori G. Dalprato C. and Bortolini R. Highly regio– and diastereo–selective Friedel–Crafts alkylation of phenols. Synthesis of 2–hy–droxymandelic esters 861

Bloch R. and Seck M. Stereo– and enantio– selective synthesis of(–)–(1*R*,–3*R*,5*S*)–1,3–dimethyl–2,9–dioxa bicyclo [3.3.1] nonane 855

Boga C. Savoia D. and Umani–Ronchi A. Diastereoselective addition of methyl– copper–and di–methylcuprate–boron trifluoride reagents to (*S*)–(N–alkylidene)–1–phenyleth ylamines 295

Bois C. see Desmaele D. 759

Bortolini R. see Bigi F. 861

Botta M. Saladino R. Gambacorta A. and Nicoletti R. Researches

on antiviral agents–II. Enantiosepecific synthesis of 1,3–dimethyl–6–oxiranylpyrimidin–2,4–dione with anti–ASFV activity 441

Braun H. Burger W. Kresze G. Schmidtchen F.P. Vaerman J.L. and Viehe H.G. Synthesis of chiral aminocyclitols via epoxyepimination 403

Bravo P. and Resnati G. Preparation and properties of chiral fluoroorganic compounds 661

Breuer A. see Mechoulam R. 315

Brown H.C. see Ramachandran P.V. 433

Brown J.M. and Lloyd–Jones G.C. Catalytic asymmetric hydroboration with oxazaborolidines 869

Brunner H see Gladiali S. 937

Brunner H. Muschiol M. Wischert T. and Wiehl J. Enantioselective catalysis–LIV. Hydrogenation of methyl acetoacetate using nickel powder modified with NaBr/(*R,R*)–tartaric acid 159

Brunner H. and Prester F. Asymmetric catalysis–LXI. Optically active nortricyclenes by enantioselective catalysis 589

Brunner H. and Nicdernhuber A. Optically active transition–metal complexes–CII. Enantio–selective synthesis of 3–oxabicyclo[3.3.0]–oct–7–en–7–phenyl–6–on via Khand–Pauson reaction 711

Brussee J. van Benthem R.A.T.M. Kruse C.G. and ven der Gen A. Magnesium ion mediated stereo– specific formation of N–substituted ethanolamines during reductive amination 163

Bucciarelli M. Forni A. Moretti I. and Prati F. Optically active N–chloro–2,2–bismethoxy–bism ethoxycarbonylaziridine by enzymatic hydrolysis 5

Burger W. see Braun H. 403

Burgess K. and Henderson I. Lipase–mediated resolutions of SPAC reaction products 57

Butters C. see Barron L.D. 513

Calmes M. Daunis J. Elyacoubi R. and Jacquier R. Control of enantiomeric purity of N–Boc N–methylamino acid building blocks by a convenient NMR method 329

Cano F.H. see Foces–Foces C. 65

Capelli A.M. see Bernardi A. 21

Carda M. Van der Eycken J. and Vandewalle M. Enantiotoposelective PLE–catalyzed hydrolysis of *cis*–5–substituted–1,3–diacyloxycycloh exane. Preparation of some useful chiral building blocks 17

Carloni P. see Rosini G. 751

Carpy A. see Madesclaire M. 311

Carr A.A. see Nieduzak T.R. 535

Carreno M.C. see Solladie G. 187

Casnati G. see Bigi F. 861

Catelani G. see D'Angeli F. 155

Cativiela C. Lopez P. and Mayoral J.A. Asymmetric synthesis of cycloaliphatic α–amino acids with a norbomane skeleton 379

Cativiela C. Lopez P. and Mayoral J.A. Asymmetric synthesis of 2–aminoorbor–nane–2–carboxylic acids by Diels–Alder reaction 61

Cativiela C. see Avenoza A. 765

Cavicchioni G. see D'Angeli F. 155

Cevasco G. Narisano E. and Thea S. A general method for the enantiospecific synthesis of optically active aliphatic sulfenyl chlorides and thiophthalimides 141

Chauvin R. Preparation of 2–hydroxy–1,2– diphenylethyl phenylphosphinate: a chiral reagent for asymmetric reduction of ketones 737

Chelucci G. Falorni M. and Giacomelli G. Chiral ligands containing heteroatoms–VI. 1–(2–pyridylmethyl)–pyrrolidine in the chiral catalysis of addition of diethyl– zinc to benzaldehyde 843

Chen C.–P. see Prasad K. 421

Chen K.–M. see Prasad K. 307

Chen K.–M. see Prasad K. 703

Chinchilla R. Najera C. Pardo J. and Yus M. Lipase–catalysed resolution of hydroxy sulfones 575

Chinchilla R. Najera C. Yus M. and Heumann A. Kinetic resolution of racemic alcohols with chiral carboxylic acids and dicyclohexyl–carbodiimide 851

Cinquini M. see Annunziata R. 251
Cinquini M. see Annunziata R. 355

Claramunt R.M. see Foces–Foces C. 65

Coghlan D.R. Hamon D.P.G. Massy–Westropp R.A. and Slobedman D. Enantioselective syntheses of 2–arylpropanoic acids: (S)–2–phenyl– propanoic acid 299

Coleman A.W. see Parrot–Lopez H. 367

Commercon M. Mangeney P. Tejero T. and Alexakis A. Chiral aminal templates–IV. Chiral aryl metallic reagents: reactions with aldehydes 287

Coote S.J. Davies S.G. Middlemiss D. and Naylor A. Tricarbonylchromium(0) promoted stereo–selective cyclisations of the *N*–3,4–dimethoxy–phenethyl derivatives of the 1–phenyl ethanol–amines halostachine, ephedrine and pseudo–ephedrine to 1–phenyl–*N*–methyl–7,8–dimeth oxy–1,2,4,5–tetrahydrobenzazepi nes 33

Coote S.J. Davies S.G. Goodfellow C.L. Sutton K.H. Middlemiss D. and Naylor A. Tricarbonyl–chromium(0) promoted stereoselective trans–formations of ephedriune and pseudoephedrine derivatives 817

Cozzi F. see Annunziata R. 251

Cozzi F. see Annunziata R. 355

Crouzel C. see Hammadi A. 579
D'Angeli F. Marchetti P. Cavicchioni G. Catelani G. and Nejad F.M.K. Control

ofenantio– selectivity in the formation of a model alaninamide from a 2–bromopropanamide 155

d'Angelo J. see Desmaele D. 759

d'Angelo J. see Dumas F. 167

Dalprato C. see Bigi F. 861

Danieli B. Lesma G. Mauro M. Palmisano G. and Passarella D. An efficient chemo– enzymatic approach to (+)–meroquinene 793

Daunis J. see Calmes M. 329

Davies S.G. Dupont J. and Easton R.J.C. Assignment of the absolute configura– tion to Winterstein's acid, R–3–dimethyl– amino–3–phenyl propionic acid, by the asymmetric synthesis of homochiral (*S*)–(+)–ethyl 3–dimethylamino–3–phenyl propionate 279

Davies S.G. Skerlj R.T. and Whittaker M. Chiral organometallic NADH mimics: stereoselective reduction of ethyl benbzoylformate utilising the homo– chiral auxiliary [(η^5-C5H5)Fe(CO)(PPh3)] 725

Davies S.G. see Coote S.J. 33

Davies S.G. see Coote S.J. 817

Davis M.E. see Toth I. 913

De Keukeleire D. see Stanssens D. 547

De Martin S. see Gladiali S. 635

Delogu G. see Gladiali S. 635
Delogu G. see Gladiali S. 937

Desmaele D. d'Angelo J. and Bois C. Asymmetric synthesis of furanones 759

Djedaini F. see Parrot–Lopez H. 367

Dodziuk H. and Mirowicz M. A proposal for a modification of the Cahn, Ingold and Prelog classification of chirality 171

Doherty O. see Wang Y. 527

Doyle K.J. see Alker D. 877
Drewes M.W. see Reetz M.T. 375

Duguay G. see Hudhomme P. 611

Duhamel L. Ravard A. and Plaquevent J.–C. Deracemization of axially dissym– metric compounds by enantioselective dehydro–halogenation using chiral lithium amides–II 347

Dumas F. and d'Angelo J. Intramolecular Michael addition of chiral imines to enoates: a new asymme– tric carbocyclization reaction 167

Dupont J. see Davies S.G. 279

Easton R.J.C. see Davies S.G. 279

Elguero J. see Foces–Foces C. 65

Elliott R.P. Fleet G.W.J. Vogt K. Wilson F.–X. Wang Y. Witty D.R. Storer R. Myers P.L. and Wallis C.J. Attempted ring contraction of α– riflates of 3–azido– and 3–fluoro–γ–lactones to oxetanes 715

Elyacoubi R. see Calmes M. 329

Estermann H. see Prasad K. 421

Evans P.A. Holmes A.B. and Russell K. Synthesis of homo– chiral unsaturated seven–membered lactams 593

Faber K. see Berger B. 541

Faber K. see Klempier N. 111

Falorni M. see Chelucci G. 843

Faure R. see Foces–Foces C. 65

Fauve A. see Madesclaire M. 311

Feringa B.L. see Jansen J.F.G.A. 719

Floravanti S. Loreto M.A. Pellacani L. and Tardella P.A. Asymmetric addition of ethyl azidoformate to optically active enamines. Reversal of facial selectivity compared with (ethoxycarbonyl)nitrene 931

Fleet G.W.J. and Witty D.R. Synthesis of homochiral β–hy– droxy–α–amino acids [(2*S*,3*R*,4*R*)–3,4–dihydoroxyprol ine and (2*S*,3*R*,4*R*)–3,4–dihydroxypipec olic acid] and of 1,4–dideoxy–1,4–imino–D–arabinitol [DAB1] and fago– mine[1,5–imino–1,2,5–trideoxy–D–arabino–hexitol] 119

Fleet G.W.J. see Elliott R.P. 715

Fleet G.W.J. see Wang Y. 527

Fleet G.W.J. see Wilson F.X. 525

Foces–Foces C. Cano F.H. Martinez–Ripoll M. Faure R. Roussel C. Claramunt R.M. Lopez C. Sanz D. and Elguero J. Complete energy profile of a chiral propeller compound: tris–(2'–methyl–benzimidazol–1'–yl)methane (TMBM). Chroma– to–graphic resolution on triacetyl cellulose, X–ray structures of the racemic and one enantiomer and dynamic NMR study 65

Forni A. see Bucciarelli M. 5

Franck R.W. see Ramesh S. 137

Franzini L. see Rosini C. 587

Frelek J. see Snatzke G. 649

Fujii N. see Ibuka T. 389

Fukuda H. see Toda F. 303

Funakoshi S. see Ibuka T. 389

Galons H. see Parrot–Lopez H. 367

Gambacorta A. see Botta M. 441

Garcia M.J. see Gotor V. 277

Garcia Ruano J.L. see Solladie G. 187
Gargaro A.R. see Barron L.D. 513

Gennari C. see Bernardi A. 21

Gerards M. and Snatzke G. Circular dichroism–XCIII. Determination of the absolute configuration of alcohols, olefins, epoxides and ethers from the CD of their *in situ* complexes with [Rh2(O2CCF3)4] 221

Geymayer P. see Klempier N. 111
Ghosez L. see Gouverneur V. 363

Giacomelli G. see Chelucci G. 843

Giaroni P. see Annunziata R. 251

Giaroni P. see Annunziata R. 355

Gill M. and Smrdel A.F. Pigments of fungi–XVI. Synthesis of methyl(R)–(+)–tetrahydro–2–methyl–5–oxo–2–furan acetate and its (*S*)–(–)–antipode, chiroptical references for deter–mination of the absolute stereo– chemistry of fungal pre–anthraquinones 453

Gill M. Gimenez A. Jhingran A.G. and Palfreyman A.R. Pigments of fungi–XIX. A degradative method for the determination of central chirality in naturally occurring 3–hydroxy–3–methyl–3,4–dihydroanthracen–1(2*H*)–ones: application to pigments of the flavomannin type 621

Gimenez A. see Gill M. 621

Gladiali S. Pinna L. Delogu G. De Martin S. Zassinovich G. and Mestroni G. Optically active phenanthrolines in asymmetric catalysis–III. Highly efficient enantio– selective transfer hydrogenation of acetophenone by chiral rhodium/3– alkyl phenanthroline catalysts 635

Gladiali S. and Pinna L. Completely regio–selective hydroformylation of methyl N–acetamido– acrylate by rhodium phosphine catalysts 693

Gladiali S. Pinna L. Delogu G. Graf E. and Brunner H. Optically active phenanthrolines in asymmetric catalysis–IV. Enantioselective hydrosilylation of acetophenone by rhodium/chiral alkyl phenanthroline catalysts 937

Gomez–Pacios M. see Andre–Barres 571

Goodfellow C.L. see Coote S.J. 817

Gopal J. see Aitken R.A. 517

Gotor V. Garcia M.J. and Rebolledo F. An enzymatic method for the preparation of chiral diamides 277

Gouverneur V. and Ghosez L. Stereoselective Diels–Alder reactions of a new chiral carbamoylnitroso compound 363

Graf E. see Gladiali S. 937

Griengl H. see Berger B. 541

Griengl H. see Klempier N. 111

Guanti G. Banfi L. and Narisano E. Enzymes in organic synthesis: remarkable influence of α,π system on the enan–tioselectivity in PPL catalysed monohy– drolysis of 2–substituted 1,3–diacetoxy– propanes 721

Guldner A. see Lutz D. 783

Gurjar M.K. see Rama Rao A.V. 697

Habashita H. see Ibuka T. 389

Hammadi A. and Crouzel C. Stereoselective synthesis of the (*R*)– and (S)–1–(2–amino–3–nitrophenoxy)–3–(*tert*–butylamino)–2–propanol from the enantiomeric glycidyl tosylates 579

Hamon D.P.G. Massy–Westropp R.A. and Newton J.L. Synthesis of (*R*)–1–methyl–2–cyclohexen–1–ol, a con– stituent of the agreg–gation pheromones of *Dendroctonus pseudotsugae* 771

Hamon D.P.G. see Coghlan D.R. 299

Hanson B.E. see Toth G. 895

Hanson B.E. see Toth I. 913

Hardtmann G.E. see Prasad K. 307

Hardtmann G.E. see Prasad K. 421

Hardtmann G.E. see Prasad K. 703

Harms K. see Reetz M.T. 371

Harwood L.M. see Alker D. 877

Hayashi T. Matsumoto Y. Morikawa I. and Ito Y. Catalytic asymmetric hy–droxilylation of 1,3–dienes with new chiral ferrocenylphos–phine–palladium complexes 151

Helmchen G. see Krotz A. 537

Henderson I. see Burgess K. 57

Heumann A. see Chinchilla R. 851

Hewitt J.D. see Leonard J. 699

Hildebrandt H. see Beckmann M. 335

Hoffmann H.M.R. see Kolb H.C. 237

Holdgrun X. see Reetz M.T. 375

Holmes A.B. see Evans P.A. 593

Hori H. see Soai K. 769

Hsu C.–Y. Lin Y.–S. and Uang B.J. Enantioselective syntheses of (2S)–1–benzyloxy–2,3–propanediol and (2R)– amino–2,3–propanediol from glycerol 219

Hudhomme P. Toupet L. and Duguay G. Resolution of multifunctiuonal carbon compounds derivated from N–protected 2–cyano glycinates 611

Hung S.–M. Lee D.–S. and Yang T.–K. New chiral auxiliary: optically active thiol derived from camphor 873

Iapalucci M.C. see Rosini G. 751

Ibuka T. Habashita H. Funakoshi S. Fujii N. Baba K. Kozawa M. Oguchi Y. Uyehara T. and Yamamoto Y. Determination of absolute configura– tion of the alkyl group at the α– position in the acyclic α–alkyl–(*E*)–β,γ–enoates by circular dichroism 389

Ito Y. see Hayashi T. 151

Jacquier R. see Calmes M. 329

Jansen J.F.G.A. and Feringa B.L. Michael addition of lithiodiphenylphosphine to methyloxy–2– [5H]–furanone: enantioselective synthesis of S,S–CHIRAPHOS 719

Jhingran A.G. see Gill M. 621

Mayoral J.A. see Cativiela C. 379

Mayoral J.A. see Cativiela C. 61

McCague R. An analogue of the antioestrogen temozifen of sufficient rigidity to exist as distinct enantiomers: synthesis and conformational dynamics studies 97

McGregor A. see Alker D. 877

Mechoulam R. Lander N. Breuer A. and Zahalka J. Synthesis of the individual, pharmacologically distinct, enantiomers of a tetrahydro–cannabinol derivative 315

Mestroni G. see Gladiali S. 635

Metin J. see Madesclaire M. 311
Middlemiss D. see Coote S.J. 33

Middlemiss D. see Coote S.J. 817

Miet C. see Lu Y. 707

Mikami K. Loh T.–P. and Nakai T. Acyclic stereocontrol based onchelation–con– trolled ene reaction with chiral α- and β-alkoxyaldehydes 13

Mirowicz M. see Dodziuk H. 171

Miyake M. see Kitahara T. 775

Momose T. see Takahata H. 561

Momose T. see Takahata H. 763

Morales E.Q. Vazquez J.T. and Martin J.D. Stereochemical studies of cyclononyl systems 319
Moretti I. see Bucciarelli M. 5

Mori K. and Toda F. Efficient optical resolution of aziridines by com– plexation with optically active host compounds 281

Mori K. and Bernotas R. Enzymatic preparation of the enantiomers of some 1–phenyl–1–alkanols 87

Mori K. see Kitahara T. 775

Morikawa I. see Hayashi T. 151
Morley C. Knight D.W. and Share A.C. Complementary enantioselective routes to the quinolizidine alkaloids lupinine and epilupinine 147

Muschiol M. see Brunner H. 159

Mutti S. see Alexakis A. 437

Myers P.L. see Elliott R.P. 715

Myers P.L. see Wang Y. 527

Myers P.L. see Wilson F.X. 525

Nagashima S. and Kanematsu K. A synthesis of an optically active forskolin intermediate via allenyl ether intramolecular cycloaddition strategy 743

Najera C. see Chinchilla R. 575

Najera C. see Chinchilla R. 851
Nakai T. see Mikami K. 13

Nakajima M. see Sobukawa M. 295

Narisano E. see Cevasco G. 141

Narisano E. see Guanti G. 721

Naylor A. see Coote S.J. 33

Naylor A. see Coote S.J. 817

Nejad F.M.K. see D'Angeli F. 155

Nerinckx W. and Vandewalle M. Asymmetric alkylation of a–aryl substituted carbonyl compounds by means of chiral phase transfer catalysts. Applications for the synthesis of (+)–podocarp–8(14)–en–13–one and of (–)– Wy–16,225, a potent analgesic agent 265

Newadkar R.V. see Bevinakatti H.S. 583

Newton J.L. see Hamon D.P.G. 771

Newton R.F. see Leonard J. 699

Nicoletti R. see Botta M. 441

Niedernhuber A. see Brunner H. 711
Nieduzak T.R. and Carr A.A. Enzymatic resolution of an arylpiperidine derivative utilizing lipase catalyzed hydrolysis 535

Normant J.F. see Alexakis A. 283
Normant J.F. see Alexakis A. 437

Noyori R. see Kitamura M. 1

Oguchi Y. see Ibuka T. 389

Ohkubo N. see Takahata H. 561

Ohkuma T. see Kitamura M. 1

Ohnogi T. see Yamazaki T. 215

Okamaura N. see Yamazaki T. 521

Ouali D. see Leonard J. 699

Palfreyman A.R. see Gill M. 621

Palmisano G. see Danieli B. 793

Panek J.S. and Sparks M.A. Synthesis, resolution and absolute stereo– chemical assignement of C1–oxygenated allylsilanes and C3–oxygenated vinylsilanes 801

Paquette L.A. see Liang S. 445

Pardo J. see Chinchilla R. 575

Parrot–Lopez H. Galons H. Coleman A.W. Keller N. Djedaini F. and Perly B. Intramolecular host–guest complexes of D– and L–mono–6–phenylalanyl–amino–6–deoxy cyclo– malto–heptaoses 367

Pasquarello A. Poli G. Potenza D. and Scolastico C. Stereoconvergent crotylstannane addition to nor–ephedrine–derived 2–methoxy oxazo– lidines. A clue towards a synclinal transition state geometry 429

Passarella D. see Danieli B. 793

Peach J.M. see Wang Y. 527

Pellacani L. see Fioravanti S. 931

Pelter A. Ward R.S. Jones D.M. and Maddocks P. Asymmetric synthesis of homochiral dibenzylbutyrolactone lignans by conjugate addition to a chiral butenolide 857

Peregrina J.M. see Avenoza A. 765

Perly B. see Parrot–Lopez H. 367
Pike G.A. see Alcock N.W. 531

Jones D.M. see Pelter A. 857

Joshi S.V. see Rama Rao A.V. 697

Kagan H.B. see Baldenius K.–U. 597

Kagan H.B. see Rebiere F. 199

Kanematsu K. see Nagashima S. 743

Kawahara M. see Soai K. 769

Keller N. see Parrot–Lopez H. 367

Kido M. see Kitahara T. 775

Kitahara T. Miyake M. Kido M. and Mori K. A chiral building block with bicyclo–[2.2.2]–octanone skeleton by the reduction with baker's yeast 775

Kitamura M. Ohkuma T. Tokunaga M. and Noyori R. Dynamic kinetic resolution in BINAP–ruthenium–catalyzed hydrogen– ation of 2–substituted 3–oxo carboxylic esters 1

Kitazume T. see Yamazaki T. 215

Kitazume T. see Yamazaki T. 351

Kitazume T. see Yamazaki T. 521

Klempler N. Geymayer P. Stadler P. Faber K. and Griengl H. Biocatalytic prep– aration of bicyclo– [3.2.0]heptane derivatives 111

Knight D.W. see Morley C. 147

Koga K. see Sobukawa M. 295

Kolb H.C. and Hoffmann H.M.R. A total synthesis of racemic and optically active terrein (*trans*–4,5–dihydroxyy–3–[(*E*)–1–prope nyl)-2-cyclopenten-1-one) 237

Konigsberger K. see Berger B. 541

Kozawa M. see Ibuka T. 389

Kresze G. see Braun H. 403

Krotz A. and Helmchen G. Total syntheses of san– dalwood fragrances: (Z)– and(E)–β– santalol and their enantiomers, ent–β–santalene 537

Kruse C.G. see Brussee J. 163

Kunesch N. see Lu Y. 707

Lander N. see Mechoulam R. 315

Langlois Y. see Andre–Barres 571

Latov V.K. see Lisichkina I.N. 567

Lee D.–S. see Hung S.–M. 873

Lennick K. see Reetz M.T. 375

Leonard J. Hewitt J.D. Ouali D. Rahman S.K. Simpson S.J. and Newton R.F. Useful chiral lactones derived from *cis*–bicyclo[3.3.0]–octan–3,7–dione via asymmetric deprotonation 699

Lesma G. see Danieli B. 793

Leyrer U. see Schurig V. 865

Liang S. and Paquette L.A. Biocatalytic–based synthesis of optically pure(C–6)–function– alized 1–(*tert*–butyl–dimethylsilyloxy) 2–methyl–(*E*)–2–heptenes 445

Lin J.T. see Yamazaki T. 351

Lin Y.–S. see Hsu C.–Y. 219

Lisichkina I.N. Vinogradova A.I. Tserevitinov B.O. Saporovskaya M.B. Latov V.K. and Belikov V.M. Complexation as the driving force in diasteroselective hydrogenation of dehydro–dipeptides 567

Liu H.–H. see Po S.–Y. 143

Lloyd–Jones G.C. see Brown J.M. 869

Loh T.–P. see Mikami K. 13

Lopez C. see Foces–Foces C. 65

Lopez P. see Cativiela C. 379

Lopez P. see Cativiela C. 61

Lopez–Herrera F.J. Pino–Gonzalez M.S. and Planas–Ruiz F. Palytoxin–related C–glycosides: a conformational study using molecular mechanics and an analysis of coupling constants 465

Loreto M.A. see Fioravanti S. 931

Lowe G. and Reed M.A. Synthesis and configurational assignment of some novel bicyclic sulphamidites and sulphamidates 885

Lu Y. Miet C. Kunesch N. and Poisson J. A simple total synthesis of both enantiomers of γ–amino–β– hydroxybutanoic acid (GABOB) by enzymatic kinetic resolution of cyano–hydrin acetates 707

Lutz D. Guldner A. Thums R. and Schreier P. Esterification in non–aqueous media: activity and selectivity of porcine pancreas carboxyl– esterase depending on the structure of the alcoholic substrate 783

MacNicol D.D. see Barron L.D. 513

Maddocks P. see Pelter A. 857

Madesclaire M. Fauve A. Metin J. and Carpy A. Optically active (Z)–(R)–(+)– methyl 2–phenyl–2– (pyrid–4–yl) vinyl sulfoxide synthesis and structure 311

Maeda S. see Suemune H. 425

Mangeney P. see Alexakis A. 283

Mangeney P. see Alexakis A. 437

Mangeney P. see Alexakis A. 477

Mangeney P. see Commercon M. 287

Marchetti P. see D'Angeli F. 155

Marotta E. see Rosini G. 751

Martin J.D. see Morales E.Q. 319

Martinez–Ripoll M. see Foces–Foces C. 65

Massy–Westropp R.A. see Coghlan D.R. 299

Massy–Westropp R.A. see Hamon D.P.G. 771

Matsumoto Y. see Hayashi T. 151

Mauro M. see Danieli B. 793

Mayoral J.A. see Avenoza A. 765

Pini D. see Rosini C. 587

Pinna L. see Gladiali S. 635

Pinna L. see Gladiali S. 693

Pinna L. see Gladiali S. 937

Pino–Gonzalez M.S. see Lopez–Herrera F.J. 465

Planas–Ruiz F. see Lopez–Herrera F.J. 465

Plaquevent J.–C. see Duhamel L. 347

Po S.–Y. Liu H.–H. and Uang B.–J. Enantioselective synthesis of α-aryl thioglycolic acid derivatives 143

Poisson J. see Lu Y. 707

Poli G. see Pasquarello A. 429
Potenza D. see Pasquarello A. 429

Prasad K. Chen K.–M. Repic O. and Hardtmann G.E. A highly stereoselective route to the four stereoisomers of a six–carbon synthon 307

Prasad K. Estermann H. Chen C.–P. Repic O. and Hardtmann G.E. Asymmetrization of 2–substituted glycerols: syntheses of *R*–etomoxir and *R*–palmoxirate 421

Prasad K. Chen K.–M. Repic O. and Hardtmann G.E. Stereoselective aldol reaction with chiral acetates 703
Prati F. see Bucciarelli M. 5
Prester F. see Brunner H. 589

Rabiller C.G. see Berger B. 541

Rahman S.K. see Leonard J. 699

Raimondi L. see Annunziata R. 251

Rama Rao A.V. Gurjar M.K. and Joshi S.V. Sharpless asymmetric dihydro– dihydroxylation of aryloxy allyl ethers: a simple route to chiral β–blockers 697

Ramachandran P.V. Brown H.C. and Swaminathan S. Lithium–*B*–iso–2–ethylapopinocampheyl–9–borabicyclo[3.3.1]nonyl hydride as an improved reagent for asymmetric reduction of unhindered aliphatic ketones. Further evidence for the improved enantioselectivity in reductions by reagents containing increased steric requirements at the 2–position of the apopinene structure 433

Ramesh S. and Franck R.W. Total synthesis of (+)–asperlin 137

Ravard A. see Duhamel L. 347

Rabiere F. Riant O. and Kagan H.B. Asymmetric Diels–Alder reaction catalysed by some chiral Lewis acids 199

Rebolledo F. see Gotor V. 277

Reed M.A. see Lowe G. 885

Reetz M.T. Wunsch T. and Harms K. Stereoselective synthesis of α,γ–diamino–β–hydroxy amino acid esters: a new class of amino acids 371

Reetz M.T. Drewes M.W. Lennick K. Schmitz A. and Holdgrun X. Non–racemizing synthesis and stereoselective reduction of chiral α–amino ketones 375

Repic O. see Prasad K. 307

Repic O. see Prasad K. 421

Repic O. see Prasad K. 703

Resnati G. see Bravo P. 661

Riant O. see Rebiere F. 199

Richards C.J. see Alcock N.W. 531

Rosini C. Franzini L. Pini D. and Salvadori P. Enantioselective alkylation of pro– chiral aldehydes by diethylzinc promoted by (*S,S*)–1,2–diphenylethan–1,2–diol 587

Rosini G. Carloni P. Iapalucci M.C. and Marotta E. Resolution, specific rotation and absolute configuration of 2,6,6–trimethylbicyclo[3.2.0]–heptan–*endo*–2–ol and of 2,5–dimethylbicyclo–[3.2.0]heptan–*endo*–2–ol, key intermediate in the synthesis of grandisol 751

Roussel C. see Foces–Foces C. 65
Rubio A. see Solladie G. 187

Russell K. see Evans P.A. 593

Sakai K. see Suemune H. 425

Sakai K. see Xie Z.–F. 395

Saladino R. see Botta M. 441

Salvadori P. see Rosini C. 587

Sanz D. see Foces–Foces C. 65

Saporovskaya M.B. see Lisichkina I.N. 567

Sartori G. see Bigi F. 861

Savoia D. see Boga C. 295

Schmidtchen F.P. see Braun H. 403

Schmitz A. see Reetz M.T. 375

Schofield C.J. see Baldwin J.E. 881
Schreier P. see Lutz D. 783

Schurig V. and Leyrer U. Semi–preparative enantiomer separation of 1–chloro–2,2–dimethylaziridine by complexation gas chroma–tography – absolute configura– tion and barrier of inversion 865

Scolastico C. see Bernardi A. 21

Scolastico C. see Pasquarello A. 429

Seck M. see Bloch R. 855

Sedrani R. see Alexakis A. 283

Share A.C. see Morley C. 147

Simpson S.J. see Leonard J. 699

Sinou D. see Avenoza A. 765

Skerlj R.T. see Davies S.G. 725

Slobedman D. see Coghlan D.R. 299

Smrdel A.F. see Gill M. 453

Snatzke G. Frelek J. and Szczepek W.J. Circular dichroism of some steroidal 6–membered ketoximes 649
Snatzke G. see Gerards M. 221

Soai K. Hori H. and Kawahawa M. Highly enantio– selective synthesis of optically active hydroxyaldehyde using a chiral catalyst 769

Sobukawa M. Nakajima M. and Koga K. Regioselective enolization of optically active 3–keto steroids using chiral lithium amides 295

Solladie G. Rubio A. Carreno M.C. and Garcia Ruano J.L. Asymmetric synthesis of orsellinic acid type macrolides: the example of lasiodiplodin 187

Sparks M.A. see Panek J.S. 801

Spivey A.C. see Baldwin J.E. 881

Stadler P. see Klempier N. 111

Stanssens D. De Keukeleire D. and Vandewalle M. Regio– and stereo– selective control in the alkylation of 1–alkoxy–1,4–cyclohexadienes by the chiral auxiliary approach. Enantio– selective synthesis of precursors for *cis*–hydrindanes 547

Storer R. see Elliott R.P. 715

Storer R. see Wang Y. 527

Storer R. see Wilson F.X. 525

Suemune H. Takahashi M. Maeda S. Xie Z.–F. and Sakai K. Asymmetric hydrolysis of *cis,cis*–5–benzyloxy–1,3–diaceto xycyclohexane and its application to the synthesis of chiral lactone moiety in compactin 425

Suemune H. see Xie Z.–F. 395

Sutton K.H. see Coote S.J. 817

Swaminathan S. see Ramachandran P.V. 433

Szczepek W.J. see Snatzke G. 649

Takahashi M. see Suemune H. 425

Takahata H. Takehara H. Ohkubo N. and Momose T. An efficient route to chiral *trans*–2,5–dialkylpyrrolidines via stereoselective intramolecular amidomercuration 561

Takahata H. Banba Y. and Momose T. Asymmetric synthesis of 1–hydroxyindol–izidines, biosynthetic precursors to the toxic indolixidine alkaloids slaframine and swainsonine 763

Takeda M. see Yamazaki T. 351

Takehara H. see Takahata H. 561

Tanaka K. see Toda F. 359

Tardella P.A. see Fioravanti S. 931
Tejero T. see Commercon M. 287

Thea S. see Cevasco G. 141

Thomas S.E. see Alcock N.W. 531

Thums R. see Lutz D. 783

Toda F. Toyotaka R. and Fukuda H. Optically active 4.4'.6.6'–tetrachloro–2,2'–bis–(h ydroxydiphenylmethyl)–bipheny l as a hostfor optical resolution and a chiral shift reagent 303

Toda F. and Tanaka K. Guest (solvent)-dependent enantio– selective crystalliz–ation of 7–bromo–1,4,8–triphenyl–2,3–benzo[3.3.0]octa–2,4,7–trien–6–one as the inclusion complex 359

Toda F. see Mori K. 281

Tokunaga M. see Kitamura M. 1

Toth I. and Hanson B.E. Novel chiral water soluble phosphines I. Preparation and characterization of amine functionalized DIOP, Chiraphos, and BDPP derivatives and quaternization of their rhodium complexes 895

Toth I. Hanson B.E. and Davis M.E. Novel chiral water soluble phosphines II. Applications in catalytic asymmetric hydrogenation 913

Toupet L. see Hudhomme P. 611

Toyotaka R. see Toda F. 303

Tserevitinov B.O. see Lisichkina I.N. 567

Uang B.–J. see Po S.–Y. 143
Uang B.J. see Hsu C.–Y. 219

Umani–Ronchi A. see Boga C. 295

Uyehara T. see Ibuka T. 389
Vaerman J.L. see Braun H. 403

van Benthem R.A.T.M. see Brussee J. 163

Van der Eycken J. see Carda M. 17

van der Gen A. see Brussee J. 163

Vandewalle M. see Carda M. 17

Vandewalle M. see Nerinckx W. 26

Vandewalle M. see Stanssens D. 547

Vazquez J.T. see Morales E.Q. 319

Viehe H.G. see Braun H. 403

Vinogradova A.I. see Lisichkina I.N. 567

Vogel P. see Raymond J.–L. 729

Vogt K. see Elliott R.P. 715

Vogt K. see Wang Y. 527

Vogt K. see Wilson F.X. 525
Wallis C.J. see Elliott R.P. 715

Wallis C.J. see Wang Y. 527

Wallis C.J. see Wilson F.X. 525

Wang Y. Fleet G.W.J. Storer R. Myers P.L. Wallis C.J. Doherty O. Watkins D.J. Vogt K. Witty D.R. Wilson F.X. and Peach J.M. Synthesis of the potent antiviral oxetane nucleoside epinoroxetanocin from D–lyxono– lactone 527

Wang Y. see Elliott R.P. 715

Wang Y. see Wilson F.X. 525

Ward R.S. see Pelter A. 857

Watkin D.J. see Wang Y. 527

Wen Z.Q. see Barron L.D. 513

Whittaker M. see Davies S.G. 725

Wiehl J. see Brunner H. 159

Wild S.B. see Appelt A. 9

Willis A.C. see Appelt A. 9

Wilson F.–X. see Elliott R.P. 715

Wilson F.X. Fleet G.W.J. Witty D.R. Vogt K. Wang Y. Storer R. Myers P.L. and Wallis C.J. Synthesis of the oxetane nucleosides α– and β–noroxetanocin 525

Wilson F.X. see Wang Y. 527

Winterfeldt E. see Beckmann M. 335

Wischert T. see Brunner H. 159

Witty D.R. see Elliott R.P. 715

Witty D.R. see Fleet G.W.J. 119

Witty D.R. see Wang Y. 527
Witty D.R. see Wilson F.X. 525

Wunsch T. see Reetz M.T. 371

Xie Z.–F. Suemune H. and Sakai K. Stereochemical observation on the enantioselective hydrolysis using *Pseudomonas fluorescens* lipase 395

Xie Z.–F. see Suemune H. 425

Yamamoto Y. see Ibuka T. 389

Yamazaki T. Ohnogi T. and Kitazume T. Asymmetric synthesis of both enantiomers of 2–trifluoromethyl–4–aminobutyric acid 215

Yamazaki T. Lin J.T. Takeda M. and Kitazume T. A highly stereocontrolled synthesis of α–hydroxycyclopropanes possessing a trifluoromethyl group 351

Yamazaki T. Okamura N. and Kitazume T. Stereoselective preparation of ethyl 2,3–dihydroxy–4,4,4–trifluorobutyrates via enzymatic optical resolution 521
Yang T.–K. see Hung S.–M. 873

Yus M. see Chinchilla R. 575

Yus M. see Chinchilla R. 851
Zahalka J. see Mechoulam R. 315

Zassinovich G. see Gladiali S. 635

TETRAHEDRON: ASYMMETRY

Instructions for Authors

TETRAHEDRON: ASYMMETRY will publish the following types of paper:

- COMMUNICATIONS attempt to provide rapid publication of important new contributions. Manuscripts must be in camera-ready form of two or four pages only. A statement should be included concerning the characterisation of new compounds. For rapid publication authors are encouraged to FAX a copy to the Editor (see below).
- ARTICLES should describe original research of high quality and timeliness in the field of asymmetry.
- REPORTS will generally be specially commissioned, however, suggestions for topics and authors are welcomed by the Editor.

Articles and Reports may be submitted as camera-ready copy or for typesetting. In the latter case original artwork must be supplied and typesetting may significantly delay publication.

Journal Policy: The language of submission is English. All papers are submitted to referees who advise the Editor on the matter of acceptance in accordance with the high standards required, on the understanding that the subject matter has not been previously published. Authors accept full responsibility for the factual accuracy of the data presented and should obtain any necessary authority to publish. Referees' names are not disclosed. Authors are encouraged to suggest the names of suitable referees.

Reprints: 25 free reprints will be sent to the principal author. Additional reprints required must be indicated on submission.

Manuscript Preparation: Full details may be obtained by consulting issue one of the current volume of *Tetrahedron* (for Articles and Reports) or *Tetrahedron Letters* (for Communications). Manuscripts submitted as camera-ready copy must be on good quality paper on A4 (21.0 x 29.7cm) or U.S. Letter (21.6 x 27.9cm) size paper. Ideally manuscripts should be laser printed using 12pt Times Roman font with 1.5 line spacing. All graphics must be inserted in text (glued not taped if not printed directly). All graphics and text must be placed in an image area of 18.75cm wide by 26cm high. Margins to create this image area from standard size paper are:

Margins	:	Top	Bottom	Left	Right	
A4	:	1.91	1.27	1.1	1.1	(cm)
US letter	:	1.27	0.64	1.27	1.52	(cm)

Camera-ready manuscripts should be adjusted to make the page count an even number. A space of 2.5cm should be left blank at the top of the first page followed by the title (bold 18pt Times Roman with initial caps), authors' names (bold 12pt Times Roman, including the first name, middle initial and an asterisk for the author dealing with correspondence), and address (10pt Times Roman). An abstract (12pt Times Roman, left and right margin indented by 1.27cm) beginning with **Abstract:** should be placed next, followed by the main body of the paper. In the text, references should be indicated by 10pt superscript Arabic numerals.

Stereochemistry Abstracts: (Equivalent to the Graphical Abstracts in *Tetrahedron Letters*). Authors are requested to supply a stereochemistry abstract for each important chiral compound detailing structure, name, formula and all available stereochemical information for eventual incorporation into a database.

Submission of Manuscripts: Manuscripts should be sent, in triplicate, to the Editor-in-Chief, at the following address:

Dr S G Davies
Dyson Perrins Laboratory
South Parks Road
Oxford OX1 3QY, UK
FAX: 0865-275633

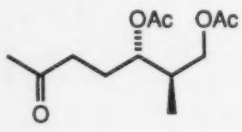
All principal authors are requested to supply the Editor with their telephone and FAX numbers to facilitate rapid communication. In order to achieve the most rapid publication time possible for Communications, whenever possible, the authors should FAX a copy to **Oxford (0)865-275633**, at the same time as they mail the camera-ready manuscripts.

TET: A

STEREOCHEMIST

INSERT NAMES

R. J. Capon, S. J. Coote, S. G. Davies, G. L. Gravatt, I. M. Dord
J. K. McLeod and M. Whittaker



$C_{12}H_{20}O_5$

1,3-Diacetoxy-2-methyl-6-oxoheptane

E.e.=1
$[\alpha]_D^{24}$=
CD[θ]
Source
Absolu
(assign

EXA

75%

MISTRY ABSTRACTS

LEAVE BLANK

Dordor-Hedgecock,

e.=100.0% [by nmr with (-)-2,2,2-trifluoro-1-(9-anthryl)ethanol]
$_D^{24}$= -1.5 (c 3.1, $CHCl_3$), -7.0 (c 1.6,EtOH)
D $[\theta]_{27}$ -400, $[\theta]_{215}$ -1200 (c 0.12,EtOH)

ence of chirality: natural and asymm. synth. (aldol)

solute configuration 2R,3S
ssigned by rel. X-Ray of synth. intermed. and Horeau's method)

AMPLE

VOLUMES NOW AVAILABLE SEPARATELY

COMPREHENSIVE POLYMER SCIENCE

The Synthesis, Characterization, Reactions & Applications of Polymers

The most up-to-date, authoritative and complete work of reference ever published on the science and technology of polymers, plastics and related materials

Chairman of the Editorial Board: **Sir Geoffrey Allen FRS,** *Unilever plc, London, UK*
Deputy Chairman: **J C Bevington,** *University of Lancaster, UK*
Assisted by an International Advisory Board

"A milestone in the literature of polymer science in terms of coverage, clarity and level of presentation."
British Polymer Journal

"A coup, this: articles sometimes contain references to papers published in 1988, and are in other ways impressively up-to-date."
Nature

"A truly scholarly work which in many chapters transcends the usual review style and presents a critical survey of the topics under discussion."
Polymer News

The seven volumes of this reference work provide a clear and systematic treatment of all aspects of the subject from synthetic chemistry, characterization, physical properties and chemical reactions to processing and applications. Each volume reflects the truly important facets of modern polymer science, with the information presented in a concise and logical manner. Previously available only as a complete set, each volume can now be purchased separately, providing the polymer scientist with the ideal opportunity to obtain valuable information in their particular field of interest.

Volume 1 Polymer Characterization
Volume editors: **C Booth & C Price,** *UK*
Describes polymer characterization and includes 37 chapters dealing with solution methods, separation methods, spectroscopic and related methods, diffraction and scattering methods, microscopy, and thermal methods.
0 08 0362052 h 968pp April 1990 **£200.00**

Volume 2 Polymer Properties
Volume editors: **C Booth & C Price,** *UK*
Covers polymer properties and contains 25 chapters reviewing this aspect of the subject.
0 08 0362060 h 798pp April 1990 **£165.00**

Volume 3 Chain Polymerization I
Volume editors: **G C Eastmond,** *UK,* **A Ledwith,** *UK,* **S Russo,** *Italy,* & **P Sigwalt,** *France*
Contains over 50 chapters describing chain polymerization and covers general characteristics, free-radical polymerization and cationic polymerization
0 08 0362079 h 897pp April 1990 **£185.00**

Volume 4 Chain Polymerization II
Volume editors: **G C Eastmond,** *UK,* **A Ledwith,** *UK,* **S Russo,** *Italy,* & **P Sigwalt,** *France*
Contains a further 26 chapters dealing with chain polymerization which survey transition-metal and related polymerizations, heterogeneous free-radical polymerization, solid-state and radiation-induced polymerization, special aspects of chain polymerization, and polymerization of inorganic ring systems.
0 08 0362087 h 602pp April 1990 **£125.00**

Volume 5 Step Polymerization
Volume editors: **G C Eastmond,** *UK,* **A Ledwith,** *UK,* **S Russo,** *Italy,* **& P Sigwalt,** *France*
Discusses step polymerization and includes 16 chapters covering general characteristics of step polymerization followed by 23 chapters describing the synthesis of specific polymer types by step polymerization.
0 08 0362095 h 753pp April 1990 **£155.00**

Volume 6 Polymer Reactions
Volume editors: **G C Eastmond,** *UK,* **A Ledwith,** *UK,* **S Russo,** *Italy,* **& P Sigwalt,** *France*
Reviews polymer reactions with 23 chapters discussing various aspects of the subject.
0 08 0362109 h 664pp April 1990 **£140.00**

Volume 7 Specialty Polymers & Polymer Processing
Volume editor: **S L Aggarwal,** *USA*
Deals with specialty polymers and polymer processing, with eight chapters reviewing generic polymer systems and applications and seven chapters describing unit operations of polymer processing.
0 08 0362117 h 684pp April 1990 **£140.00**

Comprehensive Polymer Science can still be purchased as a seven-volume set
0 08 0325157 h 5367pp December 1988 **£1095.00**

Sterling prices quoted apply worldwide except in the Americas.
Prices are subject to change without prior notice

PERGAMON PRESS

USA & Canada:
Pergamon Press, Inc., 395 Saw Mill River Road, Elmsford, NY 10523, USA
UK & all other countries:
Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK

Librarians, save money on new subscriptions, join our Profile Plan

Pergamon Press is keeping pace with the current explosion in information through the continuation of our Selective Order Profile Plan.
Pergamon recognises the need for libraries to monitor developments in various disciplines and has developed the Profile Plan to keep you informed about new and existing journals in your area(s) of interest.

SELECT ORDER PROFILE PLAN

We will provide a **'customised'** list of all Pergamon journals that are within your specific area(s) of interest. From this list, you can select sample copies of any journals which you or your colleagues would like to review. Your library will automatically receive the first issue of any new journals that are published in the subjects you select.

Profile Plan participants will receive:

- **25% discount** on new one year subscriptions
- **30% discount** on new two-year subscriptions
- **50% discount** on back issues when ordered with a current subscription
- A copy of the **PERGAMON JOURNALS BULLETIN** each month
- A one year complimentary subscription to one of the following:

INFORMATION PROCESSING AND MANAGEMENT
LIBRARY ACQUISITIONS, PRACTICE AND THEORY
GOVERNMENT PUBLICATIONS REVIEW
EVALUATION AND PROGRAM PLANNING

Terms for **SELECTIVE ORDER PROFILE PLAN**
Participating libraries receive the appropriate discount on new titles ordered. Profile Plan orders may be amended at any time and may be cancelled by either party with written notice.

TO OBTAIN FURTHER DETAILS TOGETHER WITH A PROFILE PLAN CHECKLIST, please write to Marketing Department:

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press Inc., 395 Saw Mill River Road, Elmsford NY 10523, USA

COR017/p2

Tetrahedron: *Asymmetry*

The International Journal for Rapid Publication on all Aspects of Asymmetry in Organic, Inorganic, Organometallic, Physical and Bio-organic Chemistry

AIMS AND SCOPE

Tetrahedron: Asymmetry presents experimental or theoretical research results of outstanding significance and timeliness on asymmetry in organic, inorganic, organometallic and physical chemistry, as well as its application to related disciplines, especially bio-organic chemistry.

The journal will publish critical reviews, original research articles and preliminary communications dealing with all aspects of the chemical, physical and theoretical properties of non-racemic organic and inorganic materials and processes.

Topics relevant to the journal include:

- the physico-chemical and biological properties of enantiomers
- strategies and methodologies of asymmetric synthesis
- resolution
- chirality recognition and enhancement
- analytical techniques for assessing enantiomeric purity and the unambiguous determination of absolute configuration
- molecular graphics and modelling methods for interpreting and predicting asymmetric phenomena

Papers describing the synthesis or properties of non-racemic molecules will be required to include a separate statement, in the form of a Stereochemistry Abstract, for publication in the same issue, of the criteria used for the assignment of configuration and enantiomeric purity.

Printed in Great Britain at BPCC-AUP Aberdeen Ltd.